JAN 25 1944

PAPER TRADE JOURNAL

JANUARY 20, 1944

Established 1886

Victory in '44

"The only thing needed for us to win the European war in 1944 is for every man and woman, all the way from the front line to the remotest hamlet . . . to do his or her full duty."

GEN. DWIGHT EISENHOWER

Over a battle line flung round the girth of the globe it is scarcely necessary to rouse our fighting men to the promise of victory. They will strain every fibre to attain victory in 1944.

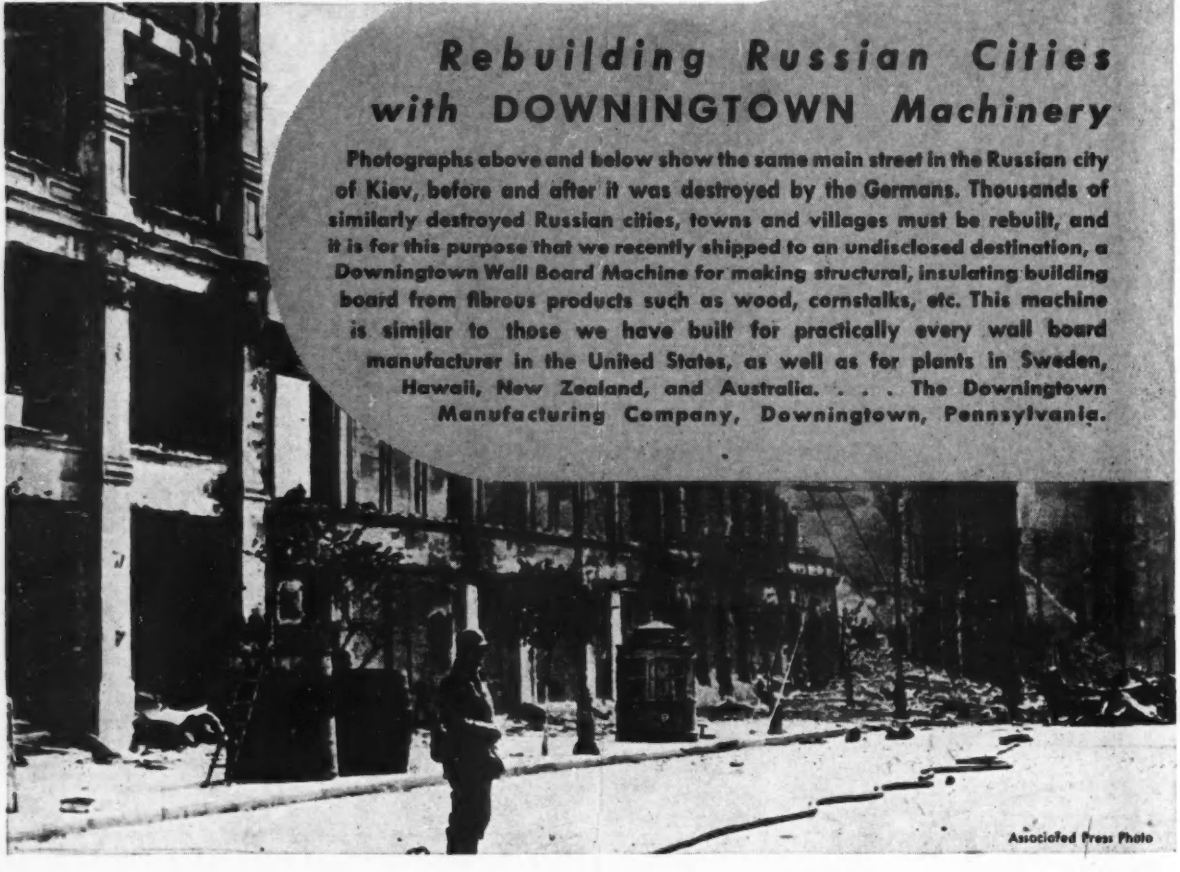
We on the home front must be unstinting in our assistance. Let the Fourth War Loan be a broadside of billions against tyranny, brutality and oppression and a stepping stone toward victory.

GOTTESMAN & COMPANY

— INCORPORATED —

New York **Stockholm**

DOWNINGTOWN



Rebuilding Russian Cities with DOWNINGTOWN *Machinery*

Photographs above and below show the same main street in the Russian city of Kiev, before and after it was destroyed by the Germans. Thousands of similarly destroyed Russian cities, towns and villages must be rebuilt, and it is for this purpose that we recently shipped to an undisclosed destination, a Downingtown Wall Board Machine for making structural, insulating building board from fibrous products such as wood, cornstalks, etc. This machine is similar to those we have built for practically every wall board manufacturer in the United States, as well as for plants in Sweden, Hawaii, New Zealand, and Australia. . . . The Downingtown Manufacturing Company, Downingtown, Pennsylvania.

Associated Press Photo

PAPER
TRADE JOURNAL

Established 1872
Title Reg. U. S. Pat. Off.

Volume 118 Number 3

Published every Thursday by Lockwood Trade Journal Co., Inc.

Executive and Editorial Offices:
15 W. 47th St., New York 19, N. Y.
New York, United States of America
BRyant 9-0860

GEO. S. MACDONALD
President
ARTHUR E. GORDON
Executive Vice-Pres.
JOSEPH P. HORGAN
Secretary
GEO. E. LOCKWOOD
Treasurer

Western Representative:
H. K. VINTON
123 West Madison St., Chicago, Ill.

HENRY J. BERGER
Editor
STILLMAN TAYLOR
Associate Editor
R. G. MACDONALD
"TAPPI" Editor
LYNN M. LAMM
Washington Correspondent

Subscriptions
(Payable in advance)

By the year $4.00
Single Copy ..... 10 cents
Postage Extra:
To Canada $2.00
To Other Foreign Countries $3.50

Member Audit Bureau of Circulations

PAPER *established Feb. 17, 1899, combined with* PAPER TRADE JOURNAL *Nov. 16, 1899.* PAPER *established Sept. 21, 1910, combined with* PAPER TRADE JOURNAL, *Feb. 19, 1925.* *All rights to the above titles reserved.*

PAPER TRADE JOURNAL *is entered as Second Class matter at the Post Office at East Stroudsburg, Pa., under Act of Congress of March 3, 1879. Publication Office of Lockwood Trade Journal Co., Inc., 34 N. Crystal St., East Stroudsburg, Pa. Printed in U. S. A.*

Copyright 1944 by the Lockwood Trade Journal Company, Inc. The contents of PAPER TRADE JOURNAL *including all articles, illustrations, etc., are covered by copyright and may not be reprinted except by permission.*

CONTENTS

JANUARY 20, 1944

	PAGE
Nekoosa-Edwards Co. Purchases Forest Land	9
C.P.P.A. Plans for Three-Day Convention	10
Active Paper Co. Formed	10
Monthly Production of Paper and Paperboard	10
Recent Paper Limitation Order is Criticized	12
TAPPI Notes	12
Midwest Market Confused by Many Reports	14
D. F. Monroe Buys Eaton Paper Co.	16
Obituary	18
U. of W. Gets Big Gift for Research	21
Pennsalt Changes	22
Ralph Luff Heads Philadelphia Assn.	22
Financial News	26
Lists New Light Weight Kraft Prices	26
Oxford Paper Co. Penalized	26
J. L. Boynton Goes with Central	26
Paul C. Wesco Elected Vice-President	26
Paper Sales Show Decline	26
Pulp and Paper Unit Issues Report	28
Now Champion Agent	28
To Manage Nagle Corp.	28
Newsprint for December	29
To Continue Imports	29
Editorial	30
C. J. Dynes Goes with WPB	31
Production Ratio Report	31
Latest Market Review	42
Miscellaneous Markets	44
Market Quotations	44
Classified Advertising	50

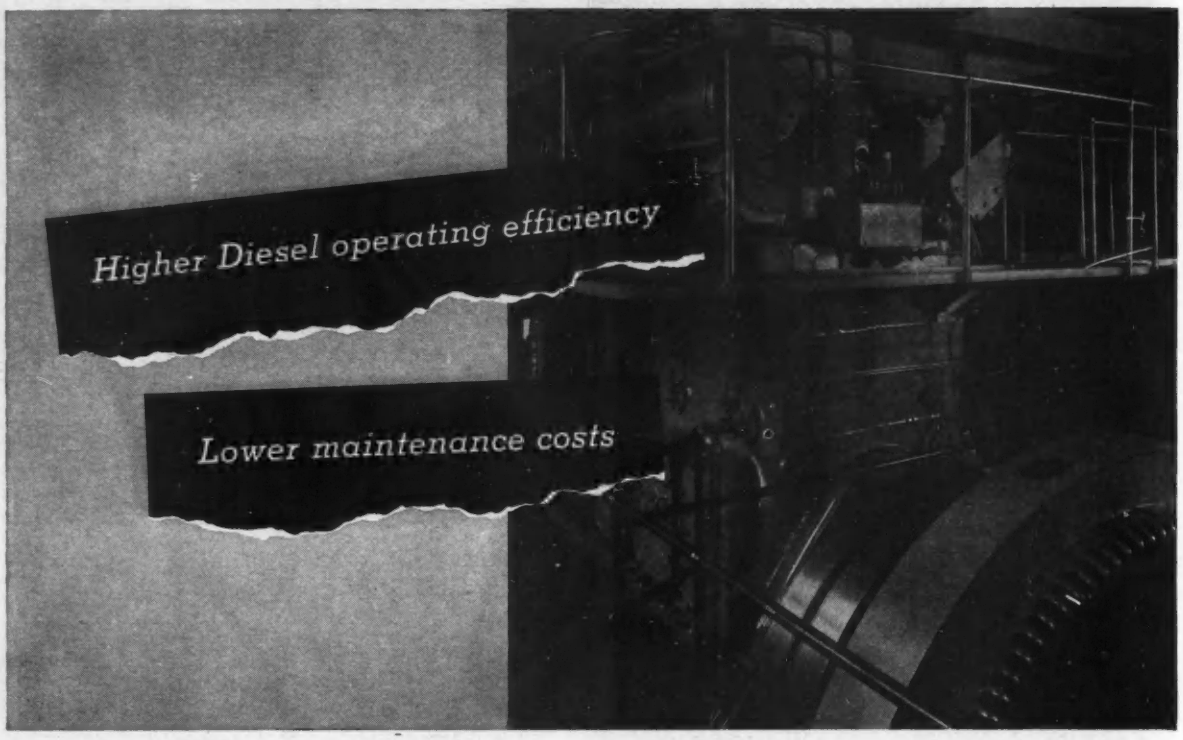
Technical Section *("TAPPI")*

United States Patents on Papermaking	33
Comparison of Methods for the Determination of Water Vapor Permeability I.	36
Lake States TAPPI Discusses Resins	38
TAPPI Discusses Flat Screens	38
Comparison of Methods for the Determination of Water Vapor Permeability II.	39

PAPER TRADE JOURNAL IS INDEXED IN INDUSTRIAL ARTS INDEX

INDEX TO ADVERTISERS ON PAGE 54

Improved Lubrication with Gulf Parvis Oils pays dividends:



Gulf Parvis Oils are writing a list of definite benefits in the operating records of hundreds of Diesels. The list includes greater efficiency, lower maintenance costs, fewer shutdowns for repairs, and longer service life.

Here's the important reason for the outstanding performance of Gulf Parvis Oils: Built into these quality oils through constant research is *superior lubricating value*, insuring better protection to moving parts under today's peak load and overload operating conditions.

For effective help in improving the lubrication of *your* Diesels, call in a Gulf Lubrication Service Engineer and ask him to recommend the proper grade of Gulf Parvis Oil to fit your particular requirements. He has had broad practical experience with all types of Diesel engines. Write, wire, or phone your nearest Gulf office today.

Gulf Oil Corporation · Gulf Refining Company

Gulf Building, Pittsburgh, Pa.

GULF INDUSTRIAL LUBRICATION

It will pay you to investigate—call in a Gulf Lubrication Service Engineer

PAPER TRADE JOURNAL
Title Reg. U. S. Pat. Off.

Vol. 118, No. 3 Thursday, January 20, 1944 Price Ten Cents

Nekoosa-Edwards Co. Purchases Forest Land

Bid of $123,000 Accepted By Oneida County In Sale of 45,117 Acres In Northern Wisconsin — Women Workers Organize — November Employment Is Steady—More Men Available To Cut Pulpwood.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., January 17, 1944—The Nekoosa-Edwards Paper Company, Port Edwards, Wis., turned out to be the successful bidder for 45,117 acres of forest land in Oneida County, heart of the northern Wisconsin woods area. Its bid of approximately $123,000 was accepted by the Oneida County board, owner of the land, at its meeting January 6 at Rhinelander, Wis. It was the largest single land transaction in the history of the county.

Plans will be carried out by the company in the near future to extend its plantation operations to include the new tract. A definite plan of selective cutting and constant reforestation will follow.

The Nekoosa-Edwards Paper Company was among the earliest of the Wisconsin paper mills to establish privately-owned forests, looking to the day when its supply, at least for its kraft mills, would be perpetual. Extensive forest plantings were made in Wood County, where its mills are located, years ago and some of the growth has already matured to the point where it can be cut.

Oneida County now has four major industrial forests. The other three are operated by the Tomahawk Kraft Paper Company, Tomahawk, Wis., the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., and the Rhinelander Paper Company, Rhinelander, Wis.

Marathon Buys Tract of Land

Evidence of post-war expansion of the Menasha Products division of the Marathon Paper Mills Company at Menasha, Wis., is seen in the purchase of six and one-half acres of land from the Menasha Wooden Ware Corporation. The property is adjacent to the present Menasha plants. Announcement of the purchase was made by R. J. Sund, production manager.

There are no definite plans as yet, Mr. Sund said, but the company will ultimately build on the new property. It has frontage on the Fox River and the Chicago and North Western Railway.

Women Workers Organize "WIPS"

In the interest of faithful production service and major participation in the war effort, 1,000 women workers in the Lakeview mill of Kimberly-Clark Corporation at Neenah, Wis., have organized themselves into a branch of the WIPS (Women in Production Service). The plan follows that adopted by a Du Pont plant in Virginia, and this unit is the first to be formed in the middlewest. It is a method of recognition for women in war work, and provides ranks and other incentives.

Qualifications include 10 per cent of income invested in war bonds, perfect safety record, no absences other than a paid vacation, proof of efficiency in job effort, necessary contributions to the suggestion system, and participation in civilian defense activities such as Red Cross, nurses' aid, surgical dressng work and blood plasma contributions.

Rigid requirements are set up for advancement in rank. Within thirty days, a woman may become a WIP first class. From then on she may become a WIP senior grade, a junior or senior lieutenant, a captain or a major. The length of time during which a worker has no absenteeism or lost-time accidents is the principal determining factor in advancement. Plastic bars of red, white and blue are issued to designate rank. A special gold star is awarded those without a non-works accident for a year.

Formal inaugural ceremonies were scheduled for Wednesday afternoon, January 12, with Cola G. Parker, president of the company and Miss Ruth Morton of Milwaukee, war plant recreational organizer, as the speakers. M. E. Palmer, mill manager, was to be master of ceremonies, and the WIPS program was to be explained by Mrs. Carleton Rott, a member of the central committee in charge of the activity. The United States Navy V-12 band of Lawrence College at Appleton, Wis. was to assist. All officers and executives of the company and many public officials and others had been invited. A luncheon was planned at 1 o'clock for the visitors.

November Employment is Steady

November employment in the paper and pulp mills and allied industries underwent no change as compared to October, according to reports compiled by the Wisconsin Industrial Commission. The number of workers, 23,000, remained constant and was identi-

(Continued on page 16)

C.P.P.A. Plans For Three-Day Convention

Active Program Prepared For Annual Meeting of Canadian Pulp & Paper Association At Montreal, January 26-28—Many Interesting Papers To Be Presented — The Newsprint Outlook Is Improved.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., January 17, 1944—An active program has been planned for the twenty-sixth annual convention of the Canadian Pulp and Paper Association to be held here on the 26th, 27th and 28th of this month. A strictly business policy will again govern every phase of the convention and again the prospects are for a gathering thoroughly representative of the industry in all parts of the Dominion, and thoroughly representative of every department of that industry.

For the committee group discussions which have always been a most helpful feature of the annual convention the list of subjects chosen includes trends in pulpwood; primary trends in boardmills; a discussion of cooking and circulation in sulphite manufacture; heat and power; problems of kraft manufacture; moisture testing and moisture control of newsprint; flat screens; high pulp yields in wood chemistry; boiler plant waste; curling of fine papers; pulp evaluation; artificial pulp stoves for ground wood mills; printability of papers; physical and chemical standards; reclamation of wood and heat in sulphite mills; and engineering problems.

Among the papers to be presented are the following: A description of the new sulphite mill at Bowater's Newfoundland Pulp and Paper Mills; "The Saccharrification of Wood for Ethanol Production," by Dr. A. J. Corey (Fraser Companies) and T. R. Moore (Anglo-Canadian Pulp and Paper Mills;" Current Activities in the Industrial and Cellulose Division of the Pulp and Paper Research Institute of Canada," by Dr. C. B. Purves (McGill University); "The Use and Properties of Newsprint," by W. G. Dodge (International Paper Sales Company); "Printing Inks, Present and Future," by J. E. T. Musgrave (Toronto Star); Grinding Progress and Burring Technique on Continuous Grinders," by V. J. Sutton (Ste. Anne Paper Company); "Our Future Wood Supplies," by A. Koroleff (Woodlands Section, Canadian Pulp and Paper Association); "A Review of the Sulphite Situation," by John Stadler (consulting engineer), and "The Future of the Newsprint Industry" by E. M. Little (Anglo-Canadian Pulp and Paper Mills).

Improvement in Newsprint Outlook

Following on the news that efforts to get more men into the woods for pulpwood cutting has resulted in an improvement in the outlook, Paul Kellogg, acting president of the Newsprint Association of Canada has announced that an equivalent increase in the purchase of newsprint has been permitted Canadian publishers as a result of a four per cent "stretching" of raw material by newsprint manufacturers accomplished through the use of fillers, waste paper, etc. His statement is as follows:

"Canadian newsprint manufactures have just met to review first reports on the effectiveness of the wood extension program. It will be recalled that the Canadian industry has advocated the extension of wood by the use of filler and waste paper and the reduction in the percentage of sulphite rather than by the use of light-weight paper. The saving forecast by these methods was a minimum of four per cent, and it was believed that the program could be started immediately.

"The first report from the industry on the effectiveness of the program indicates that the minimum extension of 4% has already been accomplished. These savings do not yet include any economies from the use of waste paper. This means that of the 200,000 tons of newsprint Canada has said will be available monthly to the United States, 8,000 tons is a result of wood extension which would not otherwise have been available.

"Canadian publishers have already been given advantage of this four per cent extension through an increase in the tonnage they are permitted to purchase."

Active Paper Co. Formed

CHICAGO, Ill., January 10, 1944—Edward M. Brower, formerly of the Brower Paper Company, announces the formation of the Active Paper Company. The new organization will specialize in all types of paper products at 605 N. Michigan avenue; telephone, Superior 4332.

October-November Paper Production

MONTHLY PRODUCTION OF PAPER AND PAPERBOARD, BY TYPE, OCTOBER-NOVEMBER, 1943[1]

(Tons of 2,000 pounds)

Types of paper	October	November
All types[2]	1,454,423	1,422,475
Newsprint	65,336	65,833
Groundwood papers	50,154	50,613
Printing	10,883	11,636
Specialties	39,271	38,977
Book papers	135,107	131,868
General printing	82,607	79,844
Converting papers	35,885	34,719
Other book papers	16,715	17,305
Fine papers	85,370	84,107
Writing papers	58,361	58,157
Drawing, cover, text	4,933	4,954
Reproduction papers	8,818	8,297
Bristols	8,354	7,557
Thin papers	4,511	4,478
Other fine papers	393	664
Wrapping papers	195,373	196,530
Bag papers	37,451	38,955
Multi-wall heavy duty sack	31,796	31,472
Wrapping	25,291	28,278
Glassine	7,057	6,916
Greaseproof	2,319	2,077
Vegetable parchment	2,575	2,904
Converting papers	36,550	34,831
Other wrapping papers	52,334	51,097
Special industrial	16,524	16,301
Sanitary papers	68,303	65,542
Tissue papers	13,794	13,260
Absorbent papers	7,647	7,395
Building papers	79,469	75,010
Paperboard	737,345	716,015
Container board	360,252	349,337
Tube stock	27,144	29,704
Folding boxboard	172,221	163,703
Set-up boxboard	63,565	61,644
Cardboard	5,852	5,977
Building board	87,334	86,029
Other	20,977	19,621

[1]Data cover all known mills, and represent a continuation of the monthly statistics initiated in "Facts for Industry," Series 24-2-1. For annual data prior to 1943, and a description of the statistics, see "Facts for Industry," Series 24-1-1. Refer all inquiries concerning these data to: Bureau of Census, Washington 25, D. C.

[2]Includes a small quantity of paper not classified by type.

For improved coatings and better finishes

This is Ethocel

Makes flexible coatings even at dry ice temperatures

Make a note of these features!

TOUGHNESS
RESISTANCE to heat
SOLUBILITY in low cost solvents
LOW FLAMMABILITY
FLEXIBILITY at low temperatures
LOW SPECIFIC GRAVITY
STABILITY to light
COMPATIBILITY with most plasticizers and resins

Ethocel, as a plastic molding material, is unique among thermoplastics because of its exceptional low temperature flexibility. *And it is this same feature that becomes extremely valuable when Ethocel is added to coatings and finishes.*

Unmodified films of Ethocel can be creased without breaking—even at −60°F. In fact, this superior low temperature flexibility is inherent in Ethocel itself and not dependent on added plasticizers and resins. This characteristic is extremely useful for the prevention of checking in lacquer mixtures and will effect similar improvements when Ethocel is used in nitrocellulose compositions.

Ethocel is at present largely used for war purposes. But sooner or later restrictions will be lifted and it would be advisable to remember its low temperature flexibility and other useful features listed at the right.

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Chicago
St. Louis • Houston • San Francisco • Los Angeles • Seattle

DOW

CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

Recent Paper Limitation Order Is Criticized

Canadian Directive Restricting Use of Paper To 25 Pounds Monthly For Unessential Purposes Not Widely Approved — Newsprint Mills To Use Waste Paper—More Workers In Woods This Year.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., January 17, 1944—The recent order limiting the use of paper to 25 pounds per month for all unessential purposes has not met with the approval of many in the printing and advertising business. From the outset many contended that the restriction should have taken into consideration prior usage. That is to say, the order should have been based on the quantities usually consumed by individual firms.

It was argued that whlie 25 pounds a month might be ample, or even more than enough, for certain users, it would only be a pittance to some of the larger firms. A brief was submitted to Administrator John Atkins by six industry associations proposing what they termed "dealer level rationing" and claiming that printers' and lithographers' advertising uses only 1% of books and fine papers and that the paper saving under the order was thus small. Under their proposal "essential printing" would have been defined by the Administrator in consultation with an Advisory Committee from the industry. It was suggested that whatever economies possible should be made in this essential matter and that whatever remained should be rationed to printers on the basis of tonnage previously used.

Administrator Atkins, however, did not see the situation that way. He said the order, which is known as Order 332, was based on "a knowledge of the immediate situation" not available to the printing trades, and that "it is not reasonable to appraise the merits of the order until it has been in force for a period." Mr. Atkins' pronouncement continued: "The true conditions are not what the authors of the brief imagine them to be," and expresses the opinion that perhaps not more than 3% of the producers of printing will be "affected peculiarly" by the order.

In dealing with the proposals in detail the Administrator says:

"The alternative policies proposed fail to ensure production of essential printed matter, use of which must be curtailed if demand and supply are to be balanced. They would leave the problem of essentiality to the individual judgments o 3,500 printers, none of whom could possibly be aware of the facts necessary to right decisions. They do not provide for the orderly production of highly specialized essential printing. They would impede or prevent the automatic adjustment of paper supply to rapidly changing demand. They would also result in an increased cost of printing for those whose need for essential printed matter had increased or shifted. They made no provision for new demands which are considerable and increasing. More paper cannot now be made available for non-essential and less essential purposes without jeopardising the supply of essential printed matter."

The associations presenting the brief were: Toronto Graphic Arts, Employing Photo Engravers, Employing Electrotypers, Toronto Trade Composition, Quebec Provincial Associations and the Employing Printers and Stationers Guild of Vancouver.

Newsprint Mills To Use Waste Paper

Canadian International Paper plans to produce at its Gatineau mill under regular mill conditions, 500 tons of newsprint containing 5% old newspapers and the Chicago Tribune's associated newsprint plant at Thorold, Ont., is already producing 200 tons of paper containing 5% to 10% old newspapers.

The Chicago Tribune and the New York Daily News will print a full day's edition on this paper under regular press room conditions.

International Paper will turn over entirely one machine to this production for about three days.

More Workers in Woods This Year

Two thousand more workers were in the woods of Eastern Canada on December 11 than at the same date a year previously, according to Labor Minister Mitchell. There were 45,600 men cutting wood for pulp, saw-logs, etc. Men from prairie farms were being enrolled at the rate of 100 a day for work in the woods and their draft deferment status was being continued while they were in the bush. Prisoners of war, Japanese and Italian internees were being put to work to help meet the industry's manpower requirements.

TAPPI Notes

J. P. Rubush, formerly of the Sevenson Evaporator Company is now chemical engineer for Douthitt-Gray-Jensen, 221 No. LaSalle street, Chicago.

The Empire State Section of TAPPI will meet at the Yates Hotel, Syracuse, N. Y. on Thursday evening, January 27. R. F. Vokes of the Dilts Machine Works will discuss the Hydrapulper.

The Chicago Professional Group, made up of TAPPI members and others interested in paper technology met at the Medinah Club, Chicago, on January 10. Walter C. Daley of the Watab Paper Company presided as chairman. 157 attended. R. Granstadt of the Chicago Tribune presented a sound film entitled "Trees to Tribunes". The following officers of the group were elected: President—H. R. Alley, Tested Papers of America; Vice President—A. E. Montgomery, J. O. Ross Engineering Co.; Secretary—V. V. Vallandigham, Kelco Co.; and Treasurer—Arnold McAneny, Bradner-Smith & Co. A question-box hour was held in which the following served on the panel: Harry E. Weston, Paper Industry and Paper World; Maj. James d'A. Clark, Q.M.C. Subsistence Research Laboratory; R. A. Diehm, Container Corp. of America; John F. Halladay, American Coating Mills; W. K. Kidder, Office of Price Administration, and Capt. Raymond J. Schadt, Chemical Warfare Service.

The TAPPI annual meeting, February 14-17, 1944, at the Commodore Hotel will be featured by more than seventy papers presenting the most recent developments in pulp and paper manufacture.

A TIME TO PAUSE - - -

WE STAND on the threshold of a new year. Long since, the Paper industry has been absorbed in plans for the months ahead.

But before they're realized... let's pause for a moment and review the year just passed.

The requirements of the armed services have been completely satisfied and at the same time civilian needs have not been neglected. In *'forty-three* WPB has done a job—the percentage allotment worked out better, much better, than any of us had reason to hope for.

The intermediates, dyestuffs, chemicals, camouflage materials, sulfa drugs... we, here at Calco, were asked to make... are now serving the men who do the fighting.

Naturally, these war-production activities limited our normal civilian supplies.

But our customers understood.

For *'forty-four*... we are reluctant to make predictions, but we pledge every effort to the task of bringing our service back to something near normal.

One thing certain, our application laboratories stand ready to help our customers meet the problems which this new year will bring.

HELLER & MERZ DEPARTMENT

CALCO CHEMICAL DIVISION • AMERICAN CYANAMID COMPANY

BOUND BROOK, NEW JERSEY

BOSTON • NEW YORK • CHICAGO

CHARLOTTE • PROVIDENCE • PHILADELPHIA

Midwest Market Confused by Many Reports

Uncertain Pulp and Manpower Situations Cause Concern — All Lines of Paper Continue In Heavy Demand — Salesmen Plan To Attend Convention In New York—City Wide Paper Salvage Starts.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., January 17, 1944—It is apparent that the Chicago paper market has never been quite so puzzled concerning the immediate outlook as it is this week. Many of those interviewed were making plans to attend the February New York meetings of the industry in order that they might obtain, "first hand", some idea about the pulp and manpower situation. Locally, there were reports that some converting mills may soon close down because of the pulp shortage and the allocations program is simply intensifying the problem of getting any kind of shipments to consumer trade.

Here and there were statements indicating confidence that the gigantic waste paper salvage program would really improve things and the plans of the War Manpower Commission to provide more manpower for both cutting and mill employment were hailed as steps in the right direction though "very, very late" as one observer expressed it. All lines were pressing at the top as far as prices are concerned and in the groundwood, sulphite and book lines reports of terrific "squeezes" were reported as labor costs, operating costs in general plus taxes were making operations a most unprofitable activity. Newspapers in the area were registering strong opposition to the newsprint stockpile program. They obviously were not liking the idea of storing newsprint in warehouses instead of using it and four major regional publishers have branded the idea "impractical and unwise". Meanwhile, the city redoubled its efforts to get the waste paper salvage program going. It was certainly getting plenty of publicity support from the press and good weather and early collections gave rise to real optimism about the outcome.

No Changes in Pilcher-Hamilton Personnel

No action will be taken by the Pilcher-Hamilton Company, Chicago coarse paper jobbers, on filling the vice presidency left vacant by the death of H. W. Borchardt until the Board of Directors meets next month. George C. Ickes, Jr., assistant sales manager of the company, will carry on as acting sales manager, a position he has filled since September when Mr. Borchardt found it impossible to attend to his duties. Mr. Borchardt, one of the most active of Chicago paper executives in trade circles, died on December 24 at the age of 58 years. He became associated with the Pilcher-Hamilton organization in 1906 serving in many capacities before joining the sales staff and becoming vice president in charge of sales in 1928. His funeral, on December 27, was widely attended not only by immediate friends and relatives but by scores of paper merchants who associated with him in the work of the Chicago Paper Association and by mill representatives as well. He had served as president of the Association in 1937.

Plan Big New York Attendance

A survey taken at the January 10 meeting of the western division of the Salesmans Association of the Paper Industry indicates that a large and enthusiastic representation of Chicago sales executives will be on hand for the annual meeting of the industry scheduled for New York, February 14, 15, 16 and 17. The meeting also provided further evidence of the critical pulp conditions as the association members "round tabled" their experiences. On January 17 the western division will be privileged to hear a widely known speaker on paper and printing uses in the person of T. J. Twentyman, advertising director of Hart, Schaffner & Marx, Chicago clothing manufacturers. Mr. Twentyman will discuss "Pride in the Use of Paper". Of English extraction and background, he is an accomplished and informed speaker.

Consider Earlier Terminal Closing

A special committee of the industrial traffic council of the Chicago Association of Commerce is soon to sample shipper and carrier views of a proposal to close railroad freight houses in the Chicago area at 4 p.m. daily and confer with an advisory committee of the ODT as to the feasibility of such a program in avoiding terminal congestion. The special committee met this week to review the methods available to combat an increased congestion which has grown to wasteful proportions.

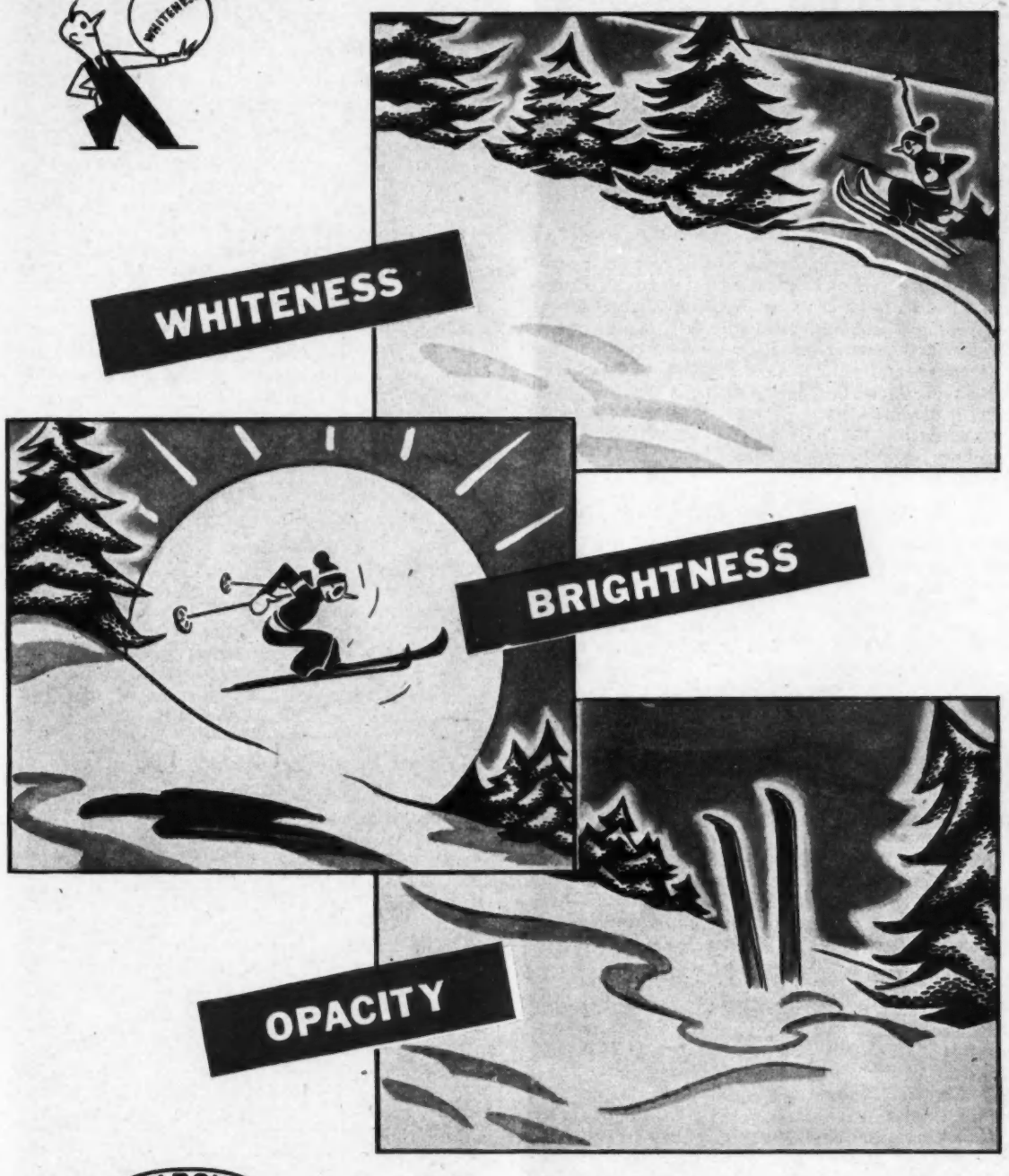
Gear for Paper Shortage Ahead

Illinois retail merchants learned more about the impending paper shortage this week as both the Chicago Retail Merchants Association and the Illinois Federation of Retail Associations warned their members of "troublesome" days ahead. Reports sent out estimate that there will be less than two thirds the amount of paper bags available in 1944 as compared to 1943 and that only about one third of the wrapping paper will be on hand to take care of retail requirements. The same report includes statements that merchants will be lucky to get any shipping cartons at all and that folding and set-up boxes will be in the same category—with the situation getting worse as the months roll by. The information was relayed in an effort to get wholehearted cooperation from retailers in selling goods wrapped in the original packing, in watching "extra" inside wrapping and in cooperating in every available way in the re-use program devised by the Container Salvage division of the War Production Board.

Begin Salvage Collections

January 15 is the day when Chicago begins its first city-wide curb collection of waste paper of all kinds. More than 500 high school boys and girls will aid voluntary truckers in loading and unloading trucks and the task of collecting paper from more than 16,000 blocks and of loading and unloading a fleet of 600 trucks took on a more optimistic tinge. Trucks will start from 82 centers at 7:30 in the morning and housewives, labor unions, janitors and others have all been pressed into service to get the paper on the curbs, load it, unload it and get an increase in the flow of salvaged materials into the idle converting mills in this area.

FOR BETTER BALANCED PAPERS



DU PONT

DU PONT "TI-PURE" *for betterbalanced papers*

(Titanium Dioxide)

E. I. DU PONT DE NEMOURS & CO. (INC.), PIGMENTS DEPARTMENT, 1007 MARKET ST., WILMINGTON, DEL.

NEKOOSA-EDWARDS CO. PURCHASES FOREST LAND

(Continued from page 9)

cal with the number employed in November, 1942. Wages were up 1.6% for November over October, however, with weekly payrolls averaging $872,000 as compared with $858,000 for October. Wages increased 6.3% over a year ago, when the weekly average was $820,000 for October. The hourly rate now averages 82.8 cents or $37.49 per week for 45.4 hours.

In the Milwaukee metropolitan area, there was an increase of 3.4% in the number of workers in November over October, with 21 plants employing 2,206. Payrolls were up 1.4% from the previous month, with a weekly average of $82,809. The prevailing hourly average pay is 80.7 cents for 46.5 hours, or $37.54 weekly.

Wausau Co. Increases Wage Rates

Wage rates of 345 employees of the Wausau Paper Mills Company, Brokaw, Wis., have been increased from 52 cents to 55 cents per hour effective October 1, according to announcement of Carl Magnus, vice-president and general manager. A joint petition by management and employees filed with the regional War Labor Board in Chicago brought approval. All hourly paid workers are included. This is the second increase during the past year. The workmen are averaging 52 to 56 hours per week, Mr. Magnus announced.

To Grant Sick Leave With Pay

Sick leave of five days with pay each year will hereafter be granted employees of the Wisconsin mills of the Kimberly-Clark Corporation, Neenah, Wis., according to announcement made last week. The plan has been approved by the unions and management, and it is believed it will promote the health of the individual worker.

The new arrangement has no effect on the vacation plan or the privileges of the corporation's Mutual Benefit Association. A worker must have one year of service prior to January 1 of any given year before participating with the exception of returning servicemen, for whom the plan will be effective immediately.

Employees Form First Aid Club

Employees of the Combined Locks Paper Company, Combined Locks, Wis., have organized a first aid club with Beve Plank as president. The group will hold a banquet January 23 at company expense, with an approximate attendance of 75 expected.

Nine Men Available to Cut Pulpwood

Further relief from the pulpwood shortage is seen in the use of 1,200 prisoners of war in the upper peninsula of Michigan. They will be placed in logging camps, and will be housed in barracks formerly used by the Civilian Conservation Corps. Robert Goodwin, director of the War Manpower Commission in the Cleveland area, said 400 prisoners would be sent immediately, and another 800 will be added within a month or two.

William H. Spencer, WMC director for the Chicago area, said several hundred seamen from the Great Lakes area and approximately 2,000 former loggers who have left off-season jobs are returning to the Michigan woods in response to a recruiting campaign.

In the meantime, large quantities of waste paper are rolling to the jobbers' warehouses in response to public salvage campaigns. A proclamation was issued by Wisconsin's governor, Walter S. Goodland, recently, urging cooperation in *every* community.

Edward Page to Direct Safety Course

Edward Page, safety director for Kimberly-Clark Corporation, will be the instructor in an industrial safety engineering course for foremen and other key workers, to be conducted one evening a week at science hall of Lawrence College, Appleton, Wis. Training will be given to help cut down the number of accidents that hamper war production. The class is under auspices of the extension division of the University of Wisconsin and the engineering, science and management war training program of the United States Office of Education.

Engineers Hold Joint Meeting

The Chemical Engineers Club and Engineers Club of Kimberly-Clark Corporation held a joint meeting following a dinner Tuesday evening, January 4, at Hotel Menasha, Menasha, Wis. A discussion of electronics was presented by a representative of the Westinghouse Electric Company.

Paper Men on Board Directors

Among the directors reelected last week by the First National Bank, Menasha, Wis., are: Frank B. Whiting, president of the George A. Whiting Paper Company, Menasha, and the Whiting-Plover Paper Company, Stevens Point, Wis.; Leo E. Croy, vice-president of the Marathon Paper Mills Company, Menasha; R. M. Sensenbrenner, vice-president of George A. Whiting Paper Company, and Hugh Strange, vice-president and treasurer of the John Strange Paper Company, Menasha.

D. F. Monroe Buys Eaton Paper Co.

BOSTON, Mass., January 17, 1944.—D. F. Munroe Company, paper merchants, announce that they have purchased the business, inventory, goodwill, accounts receivable and name of the A. M. Eaton Paper Company of Boston and Waltham.

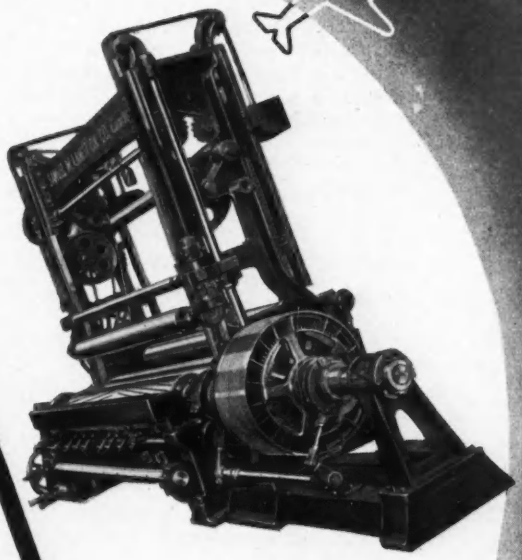
The Eaton firm was founded by Albert M. Eaton in Waltham in 1888 and specialized in the sale of paper bags, market paper and twine. Back in the days of horse drawn transportation the Eaton six horse drays, hauling loads of paper from the railroad yards to their warehouses, were a familiar sight in Boston streets.

Frank Barnicle and other members of the Eaton sales force have become actively associated with the D. F. Munroe organization as the A. M. Eaton Division. Edward Eaton will act in a consultative and advisory capacity.

Cy Slocum Joins Century Paper Co.

BOSTON, Mass., January 10, 1944—The Century Paper Company, Inc., announces that Bernard ("Cy") Slocum has joined the sales force. Mr. Slocum is a veteran paper man, well known in the Boston distributing trade.

ANY POST-WAR BUYERS FOR A FLYER'S VEST?



Soft, light, wooly paper vests have proved their worth in keeping our aviators warm. It's not too soon to plan for peacetime markets for this and other war-born paper products. Nor too soon to plan for equipment—new or replacement. We're ready to "look ahead" with you.

SAMUEL M. LANGSTON COMPANY
CAMDEN, NEW JERSEY

TYPE "DA" LANGSTON SLITTER & ROLL WINDER
Made in three models, widths up to 265" and above. Speed, 3000 feet per minute. One of five types and sizes for Mill, Finishing Room or Converting Plant.

LANGSTON

Slitters and Roll Winders

Obituary

Lieut. Carl O. Swanson

Lieut. Carl Olof Swanson, 26, U. S. Navy bomber pilot, in combat action less than a month in the Italian theatre of war, was reported lost in a plane crash, January 11, according to word received by his parents, Mr. and Mrs. Carl W. Swanson, Kalamazoo, Mich., 841 Reed avenue. He was a former Kalamazoo Central High School and WMC student.

First word of the disaster reached Kalamazoo last week when the parents were notified that their son was "missing in action," adding that conditions indicated that he had probably lost his life, but, due to insufficient proof he would be carried on the missing status until further word was received.

The latest telegram stated that Lieut. Swanson had lost his life in performance of his duties.

Following receipt of the first telegram the parents received a letter from their son dated January 7 in which he stated that he was in good health. The only other word they had received from him since arriving overseas was written on Christmas day.

Lieut. Swanson received his commission and wings in July of 1942 and left for overseas duty in December of 1943.

At the time of his enlistment in February, 1941, Lieut. Swanson was employed in the testing department of the Allied Paper Mills, King Division. Lieut. Swanson is a nephew of O. F. Swanson, general manager of the Pulp & Paper Trading Company and J. Andersen & Co., New York.

Leon W. Campbell

Leon W. Campbell, vice-president and general manager of Montmorency, Inc. 400 Madison avenue, New York, sales representative for the Anglo-Canadian Pulp and Paper Mills, Ltd., Quebec, Canada, died suddenly January 12 at his home, 414 East 52nd street from a heart attack.

Mr. Campbell, a native of Beebe, Quebec, was widely known in the pulp and paper industry and was a partner in the firm of Clark, Campbell & Moore, 400 Madison avenue, dealers in wood pulp. Mr. Campbell was well known as a sportsman and arranged the visit of Prime Minister Churchill to the concern's fishing preserves at Snow Lake, last year.

Surviving are his wife, a son Mitchell, a daughter Beatrice Ann, his mother, Mrs. Eliza Campbell of Beebe, Que., and two brothers, Wayne Campbell of Beebe, and Lyle Campbell of Montreal, Canada. Funeral services were held on January 15 at the McCormack Funeral Parlor, 65 East 52nd street, New York.

Howard R. Guild

Howard R. Guild, 76, retired paper merchant, Boston, Mass., who lived at 33 Landseer street, West Roxbury, Mass., collapsed of a heart attack on Federal street, Boston, January 6 and was pronounced dead at the Boston City Hospital.

Mr. Guild was born in Providence, R. I., but had lived in Boston for many years. He founded a paper firm which bore his name in 1894, of which he was president until his retirement in 1931. He maintained a summer home in Scituate, Mass. He was a vice-president of the National Civil Service Reform League, an officer of the Massachusetts Civil Service Association, a member of the Masonic fraternity and prominent in the affairs of the West Roxbury Congregational Church.

He leaves his wife, Mrs. Amy Cheever Guild, and three sons, Howard R., Jr., who has carried on the paper business at 185 Summer street, Boston, since his father's retirement; Donald S., and George C. Guild, and six grandchildren.

Tom T. Waller

Tom T. Waller, chairman of the board of H. G. Craig & Co., of New York, newsprint and paper dealers, died at his home, 18 Madison avenue, Montclair, N. J., on January 16. He was eighty-one years old and was born in New York.

For a time he was employed by Henry Clews & Co., New York Brokers, and then went to Watertown, N. Y., where he was owner and manager of the Globe Paper Mill. In 1895 he became mill manager for the International Paper Company and three years later became sales manager in its New York office. He was vice-president in charge of sales when he resigned to become a partner in H. G. Craig & Co. He served as president after incorporation of the firm.

Surviving are his wife Mrs. Elizabeth Mitchell Waller; two daughters, Mrs. Gustav C. Wuerth and Mrs. Harold L. Knapp, and four grandchildren.

Harold W. Knight

Harold W. Knight, a sales executive of the Bulkley-Dunton Pulp Company, 295 Madison avenue, New York, died January 15 at the Greenwich Hospital. He lived at 65 Overlook drive, Greenwich, Conn.

Mr. Knight, a native of Keene, N. H., had been associated with the pulp company for twenty-one years. Previously he had been plant manager of the King Paper Company, in Kalamazoo, Mich. Surviving are his wife, Mrs. Ethel Gardner Knight; a son, Ensign Donald G. Knight, of the United States Navy, and a daughter, Miss Shirley B. Knight.

A. C. Zimmerman

A. C. Zimmerman, widely and favorably known in the pulp and paper industry throughout the country, according to late reports received in New York, died on Christmas day, December 25, 1943. Mr. Zimmerman was connected with some of the prominent pulp and paper companies of the country and was until recently vice-president and general manager of the Pacific Paperboard Company of Longview, Wash.

Archie L. Bolton

Archie LeRoy Bolton who, with his father, John W. Bolton, was one of the founders of John W. Bolton & Sons, Lawrence, Mass., died recently.

Mr. Bolton was active in serving the Pulp and Paper industry for many years, being responsible for the development of many improved materials in addition to a number of inventions of a mechanical nature.

One of the sons, Archie LeRoy Bolton, Jr., continues in the business in association with W. W. Bolton, president."

U. of W. Gets Big Gift for Research

A five year program under which 20 Washington state pulp and paper mills, including Soundview Pulp company, Weyerhaeuser Timber company and the Everett Pulp and Paper company, will make a joint contribution of from $300,000 to $500,000 to the University of Washington for research on the utilization and neutralization of liquid mill waste has been announced by the board of regents.

The contribution will enable the graduate school of the university to conduct, on an adequately financed basis, studies looking toward the solution of the pollution problem, and to find commercial uses for the hundreds of tons of pulp liquid which now go to waste.

Research already conducted by the university and the industries has indicated that the vast quantities of lignin, sulphur, sugar and other ingredients of the waste liquid should be adaptable to useful purposes which would result in important new industries for the state.

The purposes of the project are defined as follows:

1—To find a practical method for the neutralization of pulp and paper mill liquors and wastes;

2—To find a method or methods for the recovery and commercial utilization of lignin, sulphur, sugars and other materials now wasted in the manufacture of pulp and paper.

Patents which may be developed as result of the research will become the property of the University Foundation for Research, with shop rights granted to the contributing mills.

Under the project, the mills will contribute to the University of Washington a minimum of $60,000 annually over a five-year period, assuring the continuity of the research. They have offered to increase the annual contribution to $100,000 if advisable.

The research will be undertaken by the University graduate school, of which Dr. E. R. Guthrie is dean. It will be administered by the committee on lignin and cellulose research, which consists of Dr. Guthrie, Profs. B. L. Grondal, E. J. Ordal, G. B. Rigg, H. V. Tartar and H. K. Benson. Prof. Benson is chairman. The mills committee, consisting of executives from the 20 mills involved or all mills in the state of Washington, consists of the following: L. S. Burdon, Soundview Pulp company, chairman; F. H. Youngman, Crown Zellerbach corporation; R. B. Wolf, Weyerhaeuser Timber company; W. S. Lucey, Rayonier, Inc., and Lawton Turcotte, Puget Sound Pulp and Timber company, secretary-treasurer.

By way of assisting the research authorities at the University of Washington in the highly technical and scientific problems which will naturally be involved in such a complicated project, the pulp and paper mills in the state have appointed a committee from their technicians consisting of the following: Dr. W. R. Barber, director of research for Crown Zellerbach corporation; Roy S. Hatch, research director for Weyerhaeuser Timber company, pulp division; Dr. R. Brown, research division of Rayonier, Inc., and Eric Ekholm, general superintendent of Puget Sound Pulp and Timber company.

It has required seven months of time and intensive work on the part of the university authorities and the member mills, acting through their mills committee, to work out and fully reduce to writing this project of research and development work for a minimum period of five years, it was asserted.

Mr. Burdon and Mr. Turcotte, authorized members of the mills committee, executed the agreement with the board of regents of the University of Washington under date of December 31, 1943, and by prearrangement, work was already under way at the university to carry out this project.

Rayonier Discontinues Suit

In compliance with the request of the Twelfth Regional War Labor Board, Rayonier, Inc. has dismissed the damage suit against certain of its employees who had engaged in the slow-down at its Hoquiam plant.

In connection with the dismissal of the suit the company's counsel made the following statement—Because the court now has certain motions under advisement we are advising of the plaintiffs voluntary dismissal without prejudice filed today. Yesterday after an extended hearing involving the present strike at plaintiffs' mill at Hoquiam, the Twelfth Regional War Labor Board urged the company to dismiss this action as one of the important conditions for the resumption of production. The officers and directors of the company are anxious to do everything possible to secure resumption of the manufacture of essential war materials and accordingly have honored the request of the War Labor Board."

After dismissal of suit the company issued the following further statement—"The company has at all times complied with the decisions and directives of governmental bodies and made every effort to keep its plant in full operation. However, some of its employees have not given the Government this same recognition. Since three requests for certification by the CIO for bargaining rights in the mill have been denied by the National Labor Relations Board, the company would be in violation of the law if it bargained with any other labor organization than the one with which it has contracts.

"In addition to damages suffered during the month of November as a result of the slow-down further serious losses of production and revenue were suffered during December and January because of the strike.

"Under the circumstances the company feels that it has a proper and enforceable cause of action for recovery of the damages which it has suffered. However, in view of its desire to do everything possible to cooperate in bringing about immediate resumption of production of essential war materials, it has dismissed its suit as requested."

Hold Joint Meeting at Kalamazoo

KALAMAZOO, Mich., January 17, 1944—More than 320 paper mill men representing ownership, technical direction and management were told Thursday evening of last week that "because we have been both unheeding and just a little bit stupid in not recognizing the ascendency of interests that are alien to the American way," collectivism and stateism "have fastened themselves upon our national thinking and planning policies."

The speaker was Dr. James E. McCarthy, dean of the College of Commerce of Notre Dame University. The occasion was the ninth annual joint meeting of the Michigan division of the American Pulp and Paper Mill Superintendents Association and the Kalamazoo Valley section of the Technical Association of the Pulp and Paper Industry at the Park-American hotel.

CAMERON

A CAMERON WOUND ROLL SPEAKS FOR ITSELF

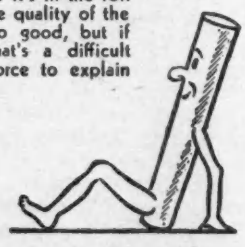
Boy, am I tough! If you don't believe it, ask any newspaper pressman how I stand up under the bumps and jolts of shipment.

From the day I started out in life as the first turn around the rewind shaft on a Cameron Winder, I admit I got a good start. In no time at all the winder built me up. It's a fact that the winder treated me gently, but even so I grew so quickly to my present size, that it would make your head swim to watch me. A Cameron Winder alone is responsible for my rugged character.

When I was finally ready to go out into the world to do the job for which I was made, the paper mill superintendent said, "Now there's a roll that can take it. Furthermore, it actually weighs more and contains more paper than a roll not wound on a Cameron Winder. That means greater weight per carload and less shipping expense, also less wrapper cost." Then I made my long trip to the big city by boat, rail, and finally by truck. You'd be surprised to find out what freight handlers can do to a roll that has not got what it takes.

The pressroom gang gave me a royal welcome and soon I was on the press and ready to go. Layer by layer the speeding presses unwound me and stripped me so close to the core that I felt naked. A fine way to treat a noble roll! Any other roll would have been babied along and left with a generous layer of core waste.

So here I am—just about used up but with my last gasp I want to say, "What's the use of making first-class paper and then putting it up in second-class rolls? For it's in the roll that the catch lies. The quality of the paper may be ever so good, but if the rolls are bad, that's a difficult matter for the sales force to explain away."



Slitting and Roll-Winding Machine Headquarters

CAMERON MACHINE COMPANY
61 POPLAR ST., BROOKLYN, N.Y.

Pennsalt Changes

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., January 17, 1944—The Pennsylvania Salt Manufacturing Company of Philadelphia announces the retirement of North Emory Bartlett as vice president effective December 31, 1943. Mr. Bartlett, who is a native of Easton, Md., started with the Salt Company November 10, 1894, as a lye salesman in the Chicago office. He came to the Philadelphia office about 30 years ago as special sales agent and on January 1, 1925, was made general sales manager of the company. January 1, 1928, he became vice president in charge of sales and continued actively in this capacity until January 1, 1942, when he relinquished his duties in charge of sales but remained vice president with additional duties as assistant secretary and with other special duties.

Mr. Bartlett leaves the Pennsylvania Salt organization to retire to his home on the Miles River, just outside of Easton, Md., where he hopes for many years for the life of a "country gentleman."

Robert W. Kress, formerly with the research department of the Follansbee Steel Corporation, Pittsburgh, Pa., who joined the special chemical division of the Pennsylvania Salt Manufacturing Company last November, has been assigned to the Chicago office of that company, according to an announcement by William P. Drake, manager of sales. Mr. Kress will assist J. W. Manz in handling sales-service work on Pennsalt cleaners, Pennsalt corrosion-resistance cements, Pennsalt LF 42 (lead flucborate concentrate) and other products of the company's Special Chemicals Division in the Chicago territory.

L. H. Brandt, Ch.E., formerly with the National Ammonia Division of duPont, has joined the Technical Service Department of the Pennsylvania Salt Manufacturing Company, P.

Mr. Brandt, a native of Ironton, Ohio, was educated at Denison University and Ohio State, receiving the degree of B.Ch.E. from the latter institution in 1929 and his Ch.E. in 1938. During his service with duPont's National Ammonia Division, which covered a period of more than ten years, he has been prominently identified with ammonia and other heavy chemical utilization in the fields of refrigeration, oil refining, and heat treating. Prior to that he spent a brief period with the Atlantic Refining Company of Philadelphia and the Chemical Department of what was then the duPont Ammonia Corporation. Mr. Brandt is the author of numerous engineering articles on ammonia, and is unusually well informed on its proper utilization.

In his new position with the technical service department of the Pennsylvania Salt Manufacturing Company, his services will be principally devoted to rendering assistance to heavy chemical users.

Ralph Luff Heads Philadelphia Assn.

At the annual meeting of the Paper Trade Association of Philadelphia held on January 12, 1944 the following were elected as officers for the coming year: President, Ralph Luff—D. L. Ward Company; vice president, Coarse Paper Division, Henry Adler—The Huff Paper Company; vice president—Fine Paper Division Fred Balch—Schuylkill Paper Company; treasurer, W. Predmore—Paper Merchants; secretary Ross Fishburn—Whiting Patterson Company.

CHECK THESE SIX "DO'S" AND "DON'TS"

Many a regrinding job has been done over again because a few simple precautions were not observed in setting up the roll in the grinder. To avoid unnecessary duplication of work and future headaches:

DO give your operators ample time to grind rolls with the required accuracy and finish. When an operator is rushed, the result may be a roll full of chatter marks, or incorrect crown, or other defects.

DON'T take a roll right from the stack after a long run and start to grind it. Unless you allow enough time for the roll to become cold, measurements will be inaccurate due to uneven expansion and contraction.

DO make sure the roll is lined up centrally with the drive and that the centers of the roll and the grinding wheel are in approximately the same horizontal plane.

DON'T neglect to adjust the reversing stops to suit the length of the roll face. See that they are securely fastened so that they cannot slip and let the carriage run into the neck rest before tripping the reverse mechanism.

DO make sure the full weight of the roll is carried on the bottom gib, if the machine is equipped with three-bearing neck rests. The two side gibs are only to steady the roll and hold it in position.

DON'T assume the machine is in good working order. If the grinder is of the fixed-rest type, minor inaccuracies may be imparted to the roll by settling of the machine foundation, slight wear of the ways, distortion caused by uneven heating of portions of the bed from sun rays or shop heating pipes. So, unless the machine is equipped with a swing-rest device, it should be examined for these inaccuracies.

These and many other roll grinding problems, as well as causes of calender stack failure, are discussed at length in the new 32-page booklet, "A PRACTICAL GUIDE TO CARE OF CALENDERS AND CALENDER ROLLS." Write for a copy today. There's no charge and no obligation.

FARREL-BIRMINGHAM CO., Inc., ANSONIA, CONN.
DEPT. 11A

Please send me a copy of your new booklet on the care of calenders and calender rolls.

NAME.....

TITLE.....

COMPANY.....

ADDRESS.....

CITY..... STATE.....

FARREL-BIRMINGHAM COMPANY, Inc.
ANSONIA, CONN.

Plants: Ansonia and Derby, Conn., Buffalo, N. Y. — *Branch Offices:* New York, Buffalo, Pittsburgh, Akron, Los Angeles

FINANCIAL NEWS

New York Stock Exchange

High, Low and Last for Week Ending January 15, 1944

STOCKS

	High	Low	Last
A. P. W.	2½	2¼	2¼
Armstrong Cork Co.	39½	37⅞	39½
Celotex Corp.	11¾	11⅝	11¾
Celotex Corp., pf.	17½	17⅜	17½
Certain-Teed Products Corp.	5¼	5⅛	5⅛
Certain-Teed Products Corp., pf.	60½	59	59
Champion Paper & Fibre Co.	26½	24½	26½
Champion Paper & Fibre Co., pf.	109	108½	108½
Congoleum Nairn Co.	22¾	22½	22¾
Container Corp. of America	21⅞	21⅛	21⅛
Continental-Diamond Fibre Co.	11⅞	11⅝	11¾
Crown-Zellerbach Co.	16¾	16¼	16⅜
Crown-Zellerbach Co., pf.	99¼	99	99¼
Dixie Cup Co.	15¾	15½	15⅝
Dixie Cup Co., pf.	44⅞	44½	44⅞
Flintkote Co.	20¼	19⅝	20⅛
Flintkote Co., pf.	106	104¼	105
Robert Gair	3⅛	2⅞	3⅛
Robert Gair, pf.	14⅝	13⅜	14⅝
International Paper Co.	14½	13¾	14½
International Paper Co., pf.	69¼	67½	69¼
Johns-Manville Corp.	90	88½	89⅞
Johns-Manville Corp., pf.	129¼	129	129
Kimberly-Clark Corp.	32	32	32
Mac Andrews & Forbes	27	26¼	26¼
Mac Andrews & Forbes, pf.	....	....	....
Masonite Corp.	39	38½	38½
Mead Corp.	9⅛	8¾	9⅛
Mead Corp., pf. A-6%	....	....	....
Mead Corp., pf. B-5½%	71	70	70½
National Container Corp.	12⅜	12⅛	12¾
Paraffine Companies, Inc.	49½	46½	49⅛
Paraffine Companies, Inc., pf.	103½	103	103
Rayonier, Inc.	14	13¼	13⅝
Rayonier, Inc., pf.	30	29¾	29⅞
Ruberoid Co.	27¼	26⅜	27
Scott Paper Co.	39	39	39
Scott Paper Co., pf.	109	109	109
Sutherland Paper Co.	....	....	....
Union Bag & Paper Corp.	10	9½	10
United Paperboard Co.	4⅝	4¼	4¼
U. S. Gypsum Co.	74	72¾	73¾
U. S. Gypsum Co., pf.	172	170	172
West Virginia Pulp & Paper Co.	20¼	17¾	19¾
West Virginia Pulp & Paper Co., pf.	106	106	106

BONDS

Abitibi Pulp & Paper Co., 5s '53	72⅝	72⅛	72⅛
Celotex Corp. 3¾s '55	102	101¾	102
Certain-Teed Products Corp. 5½s '48	100⅝	100	100⅝
Champion Paper & Fibre Co. 4¾s '50	....	....	....
International Paper Co. 6s '55	107½	107	107½
International Paper Co. 5s '47	104½	104	104⅛
Mead Corp. 3½s '53	....	....	....
West Virginia Pulp & Paper Co. 3s '54	....	....	....

New York Curb Exchange

High, Low and Last for Week Ending January 15, 1944

STOCKS

	High	Low	Last
Great Northern Paper Co.	32	31	31½
Hummel-Ross Fibre Corp.	4⅝	4½	4½
St. Regis Paper Co.	4¾	4½	4⅝
St. Regis Paper Co., pf.	147½	147	147
Taggart Corp.	5⅛	5	5

BONDS

American Writing Paper Co. 6s '61	99¾	99½	99½

Lists New Light Weight Kraft Prices

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 12, 1944—Manufacturer's ceiling prices for light weights of the three major Kraft wrapping papers were increased by the Office of Price Administration today as part of a program to encourage production of these papers and to aid in the conservation of fibre.

These increases range from five cents to one dollar per hundredweight. They apply to standard Kraft wrapping paper, No. 1 Kraft wrapping paper, and super-standard Kraft wrapping paper.

Today's action to encourage the production of light weights by allowing higher prices for them is taken in cooperation with the Pulp Conservation Program of the War Production Board and the Office of Civilian Requirements. The program's purpose is to avoid waste of critical pulpwood and sulphate fibre.

Merchants and distributors will be able to pass on today's increases to their customers, who are industrial users or stores, as they employ mark-ups over their costs in establishing their ceiling prices.

These grades of wrapping paper are not sold at retail.

If today's action does not encourage the production of light weight Kraft wrapping paper within a reasonable length of time, the new provisions will be either revoked or modified, OPA said.

The new ceilings, and comparisons with those applying heretofore, follow per hundredweight:

Basis weights (pounds)	Standard Kraft		No. 1 Kraft		Super-standard Kraft	
	New ceilings	Old ceilings	New ceilings	Old ceilings	New ceilings	Old ceilings
40 and up.....	$4.75	$4.75	$5.00	$5.00	$5.25	$5.25
35 and up.....	5.00	4.75	5.25	5.00	5.50	5.25
30 and up.....	5.25	4.75	5.50	5.00	5.75	5.25
25 and up.....	5.75	5.25	6.00	5.50	6.25	5.75
20 and up.....	6.75	5.75	7.00	6.00	7.25	6.25
18 and up.....	7.15	6.15	7.40	6.40	7.65	6.65

Oxford Paper Co. Penalized

BOSTON, Mass., January 14, 1944—The New England War Labor Board imposed today economic sanctions amounting to $20,000 on the Oxford Paper Company of Rumford, Me. The sanctions include disallowance of the $20,000 in figuring the company's operating costs for income tax purposes or under any other Government law or regulation.

The enforcement division of the regional WLB contended that from March 1, 1943, to Nov. 1, 1943, the company paid premium wages for overtime in excess of forty hours per week. One thousand four hundred and forty employes received $1,779,364 through the violations, the WLB charged.

J. L. Boynton Goes With Central

C. W. Smith, president of Central Paper Company, Inc., Muskegon, Mich. announces the appointment of John L. Boynton, to the position of sales manager, which had been vacated by the death of W. A. Wrase. Coincidental with this appointment the company also advises that the general sales offices are now located in Muskegon. The Chicago Office will be retained as a branch sales office.

Mr. Boynton had been associated with the sales department of Brown Company located at their New York Office and will make his headquarters at Muskegon.

Paul C. Wesco Elected Vice-President

At the annual stockholders meeting of the Fox River Paper Corporation at Appleton, Wis. on January 8, Paul C. Wesco was elected vice-president of the corporation.

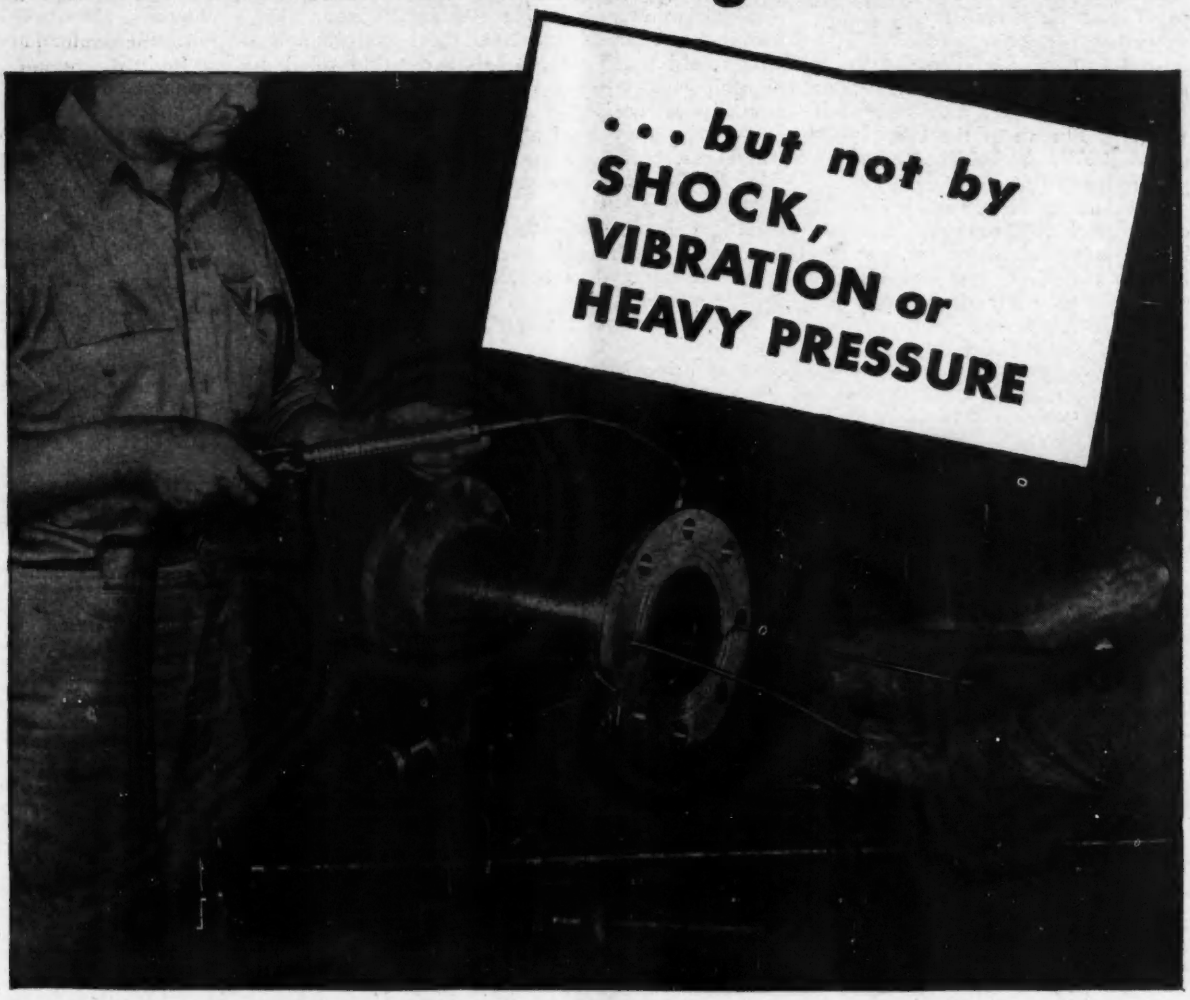
Mr. Wesco has been in the paper business for many years and has been associated with the Fox River Paper Corporation since 1938, when it purchased the mills of the Fox River Paper Company. Since 1939 he has been sales manager of the corporation.

Paper Sales Show Decline

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 18, 1944—Wholesalers sales of paper and paper products amounted to $6,499,000 in November, according to the Bureau of Census. This was 2 percent under October, but 30 percent over sales November 1942.

YES...a WALSEAL* fitting can be removed



Silbraz* joints are the strongest connections that can be made on brass or copper pipe or tubing. In hundreds of installations, Walseal Valves, Fittings or Flanges for making Silbraz joints (patented products of the Walworth Company), have proven their ability to withstand severe shock and vibration, resist corrosion and remain tight and leakproof.

But when a Walseal fitting must be removed to make alterations or repairs, it can be easily done. To remove a Walseal flange, for example, heat around the entire hub of the flange, with an oxy-acetylene flame, until the hub turns a dull red color. Direct little or no heat to the pipe or tube. The flange is then given a slight shaking motion by a helper, using hooks. The shaking motion of the heated flange breaks the brazed joint and allows air to enter between the parts, quenching the alloy. The flange may then be removed.

The flange may be re-used in the same or a new position. Enough alloy usually remains in the insert groove to permit a second joint to be made, without the necessity of inserting additional alloy.

For complete information on the installation of Walseal valves, fittings and flanges, send for Bulletin No. 84.

*Registered Trade Marks.

SEND FOR CATALOG

You'll find pertinent information on Walworth's complete line of valves, fittings, pipe, and pipe wrenches in the new Walworth Catalog 42. Included are 78 pages of practical engineering data that simplify valve selection and make piping layouts easier. Write, on business stationery, for your free copy. Address: Walworth Company, 60 E. 42nd St., New York 17, N. Y. Dept. 112.

ARMY E ARMY E NAVY

BOSTON WORKS
KEWANEE WORKS

WALWORTH
valves AND fittings

WALWORTH ★ VALVES AND FITTINGS ★ ESTABLISHED 1842

DISTRIBUTORS IN PRINCIPAL CENTERS THROUGHOUT THE WORLD

Pulp and Paper Unit Issues Report

A comprehensive report of the paper and pulp industry, January, 1944, has just been released by the Department of Commerce. It was prepared by the Pulp and Paper Unit, in cooperation with the Forest Products Bureau of the War Production Board. A summary of the report follows:

Over a period of many months consumption of fibrous raw materials by the pulp and paper industry has been in excess of new supplies, resulting in a steady drain upon inventories. At the end of November, pulpwood stocks were 22% below a year previous, while wood pulp inventories were down 49% and waste paper off 58%, in like comparison. The current inventory levels are critically low, particularly in view of the many uncertain factors relative to future new supplies.

The Forest Products Bureau of WPB has announced an over-all policy beginning with the first quarter of 1944 to allocate pulp for consumption in proportion to realistic estimates of new supplies of pulp and pulpwood so as to arrest the decline of already precarious inventory positions. However, anticipated total domestic wood pulp production for the first quarter of 2,568,000 short tons would require 4,046,000 cords of pulpwood compared with estimated new receipts (including imports) of pulpwood of about 3,228,000 cords. Although it is realized that any accurate forecast of new pulpwood supplies is impossible, the current estimates, nevertheless, indicate consumption will exceed new supply by more than 800,000 cords for the quarter.

Pulp allocations for first quarter 1944 paper and paperboard production by principal grades have been adjusted according to estimated military and essential civilian needs. The minimum expected monthly average production of 1,398,837 tons of paper and board during the first quarter of 1944 is 2.3% below the level of output in the third quarter of 1943. Substantial cuts have been made in printing papers, fine papers, and certain other classes, while increases are allowed for special industrial papers, container boards, building papers, tube stock, and a few other grades. This production pattern was determined from statements of requirements by the claimant agencies, coupled with mill reports of proposed consumption of pulp in terms of major end-use categories. Through increased use of waste fibrous materials and fillers and production of lighter weights of paper, mills are requested to produce maximum quantities from allocated wood pulp.

Production schedules for the first quarter allow for a ratio of 53% paperboard and 47% paper, compared with 45% board and 55% paper in the fourth quarter of 1942. This trend indicates the increasing use of paper products for direct and indirect war purposes.

To insure that the scheduled production of the various classes of paper and board is utilized for the most essential purposes, supplemental limitation orders on consumption will be issued as required. Additional restrictions have been placed on printing paper consumption by newspapers, magazine and book publishers, and commercial printers, bringing use down about 25% below base periods. Use of paper and board in miscellaneous converted paper products has been further adjusted to reduce less essential consumption and allow for increases in some of the more essential civilian needs.

Since the primary problem of the industry continues to be shortages in fibrous raw materials, strenuous efforts must be continued to stimulate pulpwood cutting and waste paper salvage and collection. Concurrently, additional paper conservation measures must be carefully considered.

Now Champion Agent

H. E. Gould, President of Reinhold-Gould announces their appointment as metropolitan merchants for The Champion Paper And Fibre Company, with mills at Hamilton, Ohio, Canton, North Carolina, and Houston, Texas. Listed among the grades made by the country's largest manufacturer of fine printing papers are coated and uncoated book papers for letterpress and offset, bristols, bonds, envelope papers, tablet writing and papeteries, as well as technically developed papers for many special purposes.

With the addition of Champion, Reinhold-Gould now have an excellent assortment of well known mill brands all under one roof, in their large six story warehouse.

From their central location they make regular deliveries to the entire metropolitan area as well as Westchester, Connecticut, Long Island, and New York State as far as Peekskill. Reinhold-Gould also offer the services of their organization, adequately staffed with trained personnel to render valuable counsel on the selection of papers for every printing need.

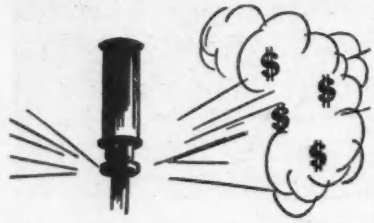
To Manage Nagle Corp.

Charles F. Hubbs & Co. have secured Leslie A. Dittman as manager of the Thomas J. Nagle Paper Corporation, which is their Hollis, L.I. branch, to assume the office held by the late Jerome V. Nagle who passed away in August 1943.

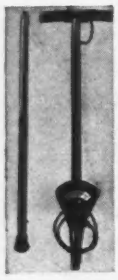
Mr. Dittman who has had wide experience in his successful career in banking and financial circles, began his business life in the printing business under his father in the "Dittman Color Printing Company," where he received his liking for and basic knowledge of the paper business.

"Ditt" as he is familiarly called is a resident of Manhasset, L.I. where his geniality, coupled with his activity in community organizations and work has won him many friends. Mr. Dittman who took office on January 1, is a worthy addition to the Hubbs Group.

STEAM can cause



PROFIT or LOSS



It's a matter of control. Too little steam slows up paper making. Too much causes paper damage. Control of steam to maintain desired progressive temperature changes in the drying roll train, is assured by the constant use of the Cambridge Surface Pyrometer. This rugged and convenient instrument accurately determines the surface temperature of moving or stationary drying and calendar rolls.

Write for bulletin 1945.

The Cambridge is made in a hand model and with the extension attachment to reach those hard-to-get-at places.

CAMBRIDGE INSTRUMENT CO., INC.
3732 Grand Central Terminal, New York, N. Y.

CAMBRIDGE
SURFACE PYROMETERS

Newsprint for December

Production of newsprint in Canada during December 1943 amounted to 249,693 tons and shipments to 241,175 tons according to the Newsprint Service Bureau. Production in the United States was 62,207 tons and shipments 64,998 tons, making a total United States and Canadian news print production of 311,900 tons and shipments of 306,173 tons. During December, 22,691 tons of news print were made in Newfoundland, so that the North American production for the month amounted to 334,591 tons. Total production in December 1942 was 338,282 tons.

The North American output of news print paper in 1943 was 4,023,857 tons, of which 2,982,797 tons was made in Canada, 804,853 tons in the United States, and 236,207 tons in Newfoundland. The Canadian output was 6.1 percent less than in 1942, that in the United States 15.5 percent less, with a loss of 14.9 percent in Newfoundland, making a total decrease of 387,287 tons, or 8.7 percent.

Stocks of news print paper at the end of December were 65,397 tons at Canadian mills and 10,992 tons at United States mills, making a combined total of 76,389 tons compared with 70,662 tons on November 30, 1943, and 101,587 tons at the end of December 1942.

To Continue Pulpwood Imports

WASHINGTON, D. C., January 12, 1944—Importation of pulpwood is placed under control by amendment of the War Production Board's general imports order, WPB announced last week.

Canada has agreed to permit shipment of a minimum of 1,250,000 rough cords of pulpwood during 1944, to be allocated by WPB to those United States companies normally dependent upon Canada for this material. Import control is invoked in order to permit the building up of a reserve supply, over and above the quantities actually allocated, to meet such unforeseen and urgent war needs as may develop during the coming year. Since this would involve diversion of Canadian pulpwood to companies whose inventories might be exhausted and whose products could not be manufactured in other mills, it is proposed to grant authorization for import with the provision that up to 12% of each company's total authorization be sold and delivered to an agency of the Federal government, when so directed by WPB.

"Something new had been added"
at a little mill we know.

They were using *girls* to pick up broke . . . good workers, yes, although
They made the men forget sometimes the job they had to do,
Like once when Joe Malone got soaking wet . . . and was he blue!
It happened at a clean-up; Johnny Doe — who held the hose,
Washing wire, and watching women — squirted Joe right in the nose.
Joe caught cold and lost a week's work, and in
times like these, that's tough.
If this *never* happens in your mill, it will be soon enough.

Have you tried *women* in the mill to help relieve the manpower shortage? Many employers report extremely favorable results, once the gals have broken in and the men have learned to accept them as fellow-workers. Some of the skilled workers who produce Cheney Bigelow wires are women . . . and they do a fine job, as you know if you use our products.

CHENEY BIGELOW

Fourdrinier Wires · · Dandys · · Cylinders · · Wire Cloth

CHENEY BIGELOW WIRE WORKS · 417 LIBERTY STREET · SPRINGFIELD, MASS.

PAPER
TRADE JOURNAL
This Reg. U. S. Pat. Off.
Henry J. Berger
EDITOR

Vol. 118 January 20, 1944 No. 3

COMING EVENTS IN PAPER INDUSTRY

American Paper and Pulp Association, Sixty-seventh Annual Convention and meeting, Waldorf-Astoria Hotel, New York, February 14-18.
Technical Association of the Pulp and Paper Industry, Convention, Commodore Hotel, New York, February 14-17.
National Paper Trade Association of the United States, Convention, Waldorf-Astoria Hotel, New York, February 14-17.
The New York Association Of Dealers In Paper Mills' Supplies, Annual Banquet, Commodore Hotel, New York, Tuesday, February 15.
New England Section. Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Roger Smith Hotel, Holyoke, Mass.
Delaware Valley Section. Technical Association of the Pulp and Paper Industry—First Friday of each month at the Engineers Club, Philadelphia, Pa.
Lake States Section. Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.
Kalamazoo Valley Section. Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park, American Hotel, Kalamazoo, Mich.

POST-WAR TAXES

Business expansion and a high rate of activity must prevail to insure a high level of employment after the war. The fiscal policy of the government in effect in the first post-war years will exert a tremendous influence and will largely determine the business prospect of the future. A realistic, practical and simplified revenue act is urgently needed today and that need must be even greater after the war when many difficult problems of readjustment must be made. It seems clear, therefore, that if prosperity is to be continued, the Federal fiscal policy must encourage the investment of "risk" capital to develop new enterprises and to expand existing facilities to supply a great variety of products essential to maintain the high American standard of living.

A common sense discussion of "Post-war Tax Policy and Business Expansion", by Lewis H. Kimmel, has just been published in booklet form by The Brookings Institution, Washington, D. C. It is largely confined to the analysis of the relation of tax policy to industrial expansion and employment opportunities. The important question considered is: what changes in the tax system would contribute to the release of economic power and the expansion of private enterprise. The related tax items directly affecting business are the excess profits tax, the corporate income tax, capital stock and declared-value excess profits taxes, and state taxes. In the study of the tax system and the investor, the impact taxes on investment income, investment incentives and the co-ordination of personal and corporate income taxes are clearly discussed.

In his analysis of arguments for the continuance of the excess profits tax, the author states: These may be conveniently classified under three headings: (1) the ability-to-pay argument: (2) the regulatory argument; and (3) the urgency of revenue needs. . . One of the reasons advanced for the continuance of the excess profits tax, the ability-to-pay argument can be ruled out completely. The ability theory cannot be successfuly invoked in support of business taxes, for the reason that these taxes are not actually borne by the corporations as such; they are borne either by the stockholders through lower dividends or by consumers through higher prices. An excess profits tax for control purposes cannot be justified. If, for example, certain corporations earn extremely high profits by reason of monopoly or near-monopoly positions and if these profits are regarded as a discordant element in the economy, an excess profits tax is not the proper solution. Acceptance of this approach would be tantamount to a willingness to perpetuate the degree of monopoly prevailing—or even have it increase—on the ground that the financial rewards would accrue to the government rather than to the owners. In the long run we cannot avoid facing the economic problems that arise by advancing such a rationalization. . . We do not believe that in time of peace regulatory taxation should be regarded as a means of offsetting the imperfections of other controls. . . In wartime the use of taxation to complement or supplement other controls may be not merely desirable; it may be an absolute necessity. But after the bridge from war to peace has been crossed, such uses of the taxing power should be held to a minimum."

Continuing his analysis the author states in part: "The arguments against a peacetime excess profits tax—in our judgment—far outweigh the reasons advanced in support of the view that this form of taxation should be continued permanently. As has been pointed out, such a tax would tend to throttle new enterprise and impede investment. It would affect various classes of business unequally. The mature and established firm in a relatively riskless industry that consistently earns profits about equal to the rate at which the tax becomes applicable would be least affected. Such a situation could not be reconciled with the requirements of an expansionist tax policy which favors the small, the growing, and the risky enterprise rather than the large, the mature, and the relatively riskless business. . . What will be feasible will depend on a number of circumstances. First, there is a revenue angle. Not all war contracts will be cancelled right after the end of hostilities. A fairly large number of these contracts may be carried through because of the need for supplies and materiel during the demobilization period and beyond. The excess profits should doubtless apply to profits on these contracts. Second, immediate repeal might not be desired by many business corporations, especially those producers for the war effort who will be faced

with major readjustment problems. If the war should end late in a given taxable or accounting year and in the following year losses or small profits are the rule among former producers of war materials, repeal of this tax effective as of the end of the last war year would not be desired by companies in this category. In the event of immediate repeal, an unused excess profits tax credit for the first post-war or reconversion year would not be available as a carryback to the two preceding years and combined tax liabilities for the three years ending with the post-war year would be increased."

The analysis of this tax item states the following conclusion: "In our opinion the effective date of the repeal of the excess profits tax is not the decisive factor. What is needed is a clear and unequivocal policy with respect to this tax. If the rate should be decreased substantially by the first post-war revenue act and if the same act should provide for the repeal of the tax by the end of the second or third post-war year, temporary continuance of the tax would not materially impede business and investment expansion."

C. J. Dynes Goes With WPB

C. J. Dynes, who has been with the Sorg Paper Company for several years in the sales capacity, has accepted an appointment with the War Production Board in Washington.

Mr. Dynes will serve as Chief of Special Industrial Papers in the Paper Division of the War Production Board.

Production Ratio Report*

(Production as percent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1943		Corresponding Weeks—1942	
December 4	91.7	December 5	84.9
December 11	89.6	December 12	88.4
December 18	89.1	December 19	87.9
December 25	70.0	December 26	63.3
January 1, 1944	72.1	January 2, 1943	75.9
January 8	93.6	January 9	85.7

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July
1942	104.5	103.9	102.9	100.4	95.3	87.4	75.8
1943	87.2	88.9	89.5	88.7	91.4	86.4	84.4

Year	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1942	80.8	82.8	90.6	86.9	80.1	90.4
1943	91.1	88.3	90.2	90.6	*82.3*	87.8

COMPARATIVE YEARLY SUMMARIES

	1936	1937	1938	1939	1940	1941	1942	1943
Year Average..	80.4	79.8	71.5	83.4	85.6	97.4	90.4	*88.2*

* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

PAPERBOARD OPERATING RATIOS†

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1937	83	89	89	91	88	80	69	77	72	70	57	47	75
1938	56	63	63	60	60	59	59	60	70	73	67	61	64
1939	65	73	76	74	69	73	68	77	82	91	88	77	77
1940	78	75	74	76	82	85	77	79	78	85	82	77	78
1941	81	88	89	89	91	94	92	98	95	99	98	90	92
1942	102	101	101	95	82	72	68	75	76	81	82	77	84
1943	86	88	94	94	96	94	89	96	94	94	93	*87*	93

Week ending Dec. 4, 1943—95
Week ending Dec. 11, 1943—96
Week ending Dec. 18, 1943—96
Week ending Dec. 25, 1943—87
Week ending Jan. 1, 1944—63
Week ending Jan. 8, 1944—*86*

† Percents of operation based on "Inch-Hours" reported to the National Paperboard Assn.

MEETING THE MEASURE OF YOUR PROCESSING REQUIREMENTS..

WITCO BLACK NO. 11,

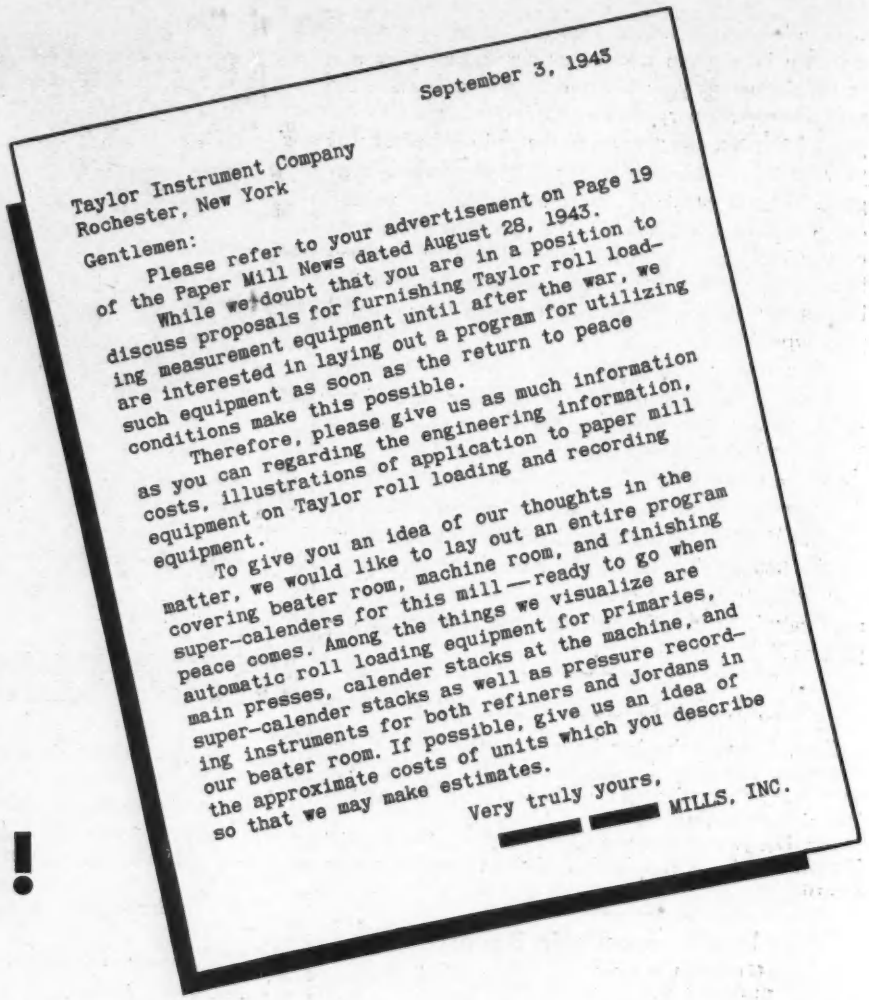
a specially developed pellet black of the dustless type, not only improves the appearance of black papers but *costs less.* And it has other advantages, too . . . it disperses better, is more easily incorporated into the beater and is cleaner to handle than uncompressed carbon black.

Change over to Witco Black No. 11. A production run will confirm its advantages. We'll gladly send you samples for trial purposes.

CHEMICALS • PIGMENTS • ASPHALTUMS

WISHNICK-TUMPEER, INC.
MANUFACTURERS AND EXPORTERS
295 MADISON AVENUE, NEW YORK 17, N. Y.
Boston, Chicago, Cleveland, London
Witco Affiliates: Pioneer Asphalt Company
Panhandle Carbon Company

WE WEREN'T READY THEN BUT WE'RE READY NOW!



September 3, 1943

Taylor Instrument Company
Rochester, New York

Gentlemen:

Please refer to your advertisement on Page 19 of the Paper Mill News dated August 28, 1943.

While we doubt that you are in a position to discuss proposals for furnishing Taylor roll loading measurement equipment until after the war, we are interested in laying out a program for utilizing such equipment as soon as the return to peace conditions make this possible.

Therefore, please give us as much information as you can regarding the engineering information, costs, illustrations of application to paper mill equipment on Taylor roll loading and recording equipment.

To give you an idea of our thoughts in the matter, we would like to lay out an entire program covering beater room, machine room, and finishing super-calenders for this mill—ready to go when peace comes. Among the things we visualize are automatic roll loading equipment for primaries, main presses, calender stacks at the machine, and super-calender stacks as well as pressure recording instruments for both refiners and Jordans in our beater room. If possible, give us an idea of the approximate costs of units which you describe so that we may make estimates.

Very truly yours,

[redacted] MILLS, INC.

WHEN this letter came in a while ago, most "postwar planning" was still in the dim distant future. But before we knew it, the future was here! Now for the first time in many months, we're back to reasonable delivery schedules on Taylor Instruments for the pulp and paper industry!

It's not a day too early to order *yours*. For instance, take Taylor Automatic Grinder Temperature Control. Whatever type of grinder you have in mind, Taylor Temperature Control can increase production, cut power consumption and stone costs. Taylor Pulp Digester Controls also will give you a more uniform stock.

Maybe you need Taylor Beater Roll Pressure Recorders. Taylor Calender Roll Recorders or Controllers. Taylor Storage Tank Level Recorders. Or Taylor Stock Selector Control. And don't overlook Taylor Starch Cooking Control for those rapidly growing specialty lines.

Here's your opportunity to get the Taylor Instruments you've been waiting for! Ask your Taylor Field Engineer, or write Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada.

Instruments for indicating, recording, and controlling temperature, pressure, humidity, flow, and liquid level.

ARMY E NAVY

Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY

★ KEEP ON BUYING U. S. WAR BONDS AND STAMPS ★

Section of the
TECHNICAL ASSOCIATION
OF THE PULP & PAPER INDUSTRY
122 E. 42nd St., New York 17, N. Y.
Edited by R. G. Macdonald, Secretary

United States Patents on Papermaking

Fourth Quarter, 1943

Compiled by Clarence J. West, Chairman, Committee on Abstracts and Bibliography, TAPPI

The following list of patents has been compiled from the current numbers of the Official Gazette of the United States Patent Office. Because, as a rule, only one claim is published in the Gazette, it is not claimed that the list is complete; also, it is possible that the list may contain some patents which do not apply to pulp and paper manufacture.

Copies of any of the following patents may be obtained from the U. S. Patent Office, Washington, D. C., by sending ten cents for each patent desired. The number of the patent, the name of the inventor, and the title of the patent should be given in the request. Personal checks and postage stamps are not accepted in payment for patents. Books of coupons may be purchased for two or ten dollars, good for 20 or 100 patents. Coupon orders do not have to be accompained by letters of transmittal.

October 5, 1943

2,330,810. Plasterboard faced with lightweight paper. Dean D. Crandell, assignor to National Gypsum Company, Buffalo, N. Y. Filed Dec. 19, 1941. 5 claims. (Cl. 154-45.9). A paper sheet which is bonded to one side of a wallboard consists of 30-50% of kraft stock, has a weight of 35-45 pounds per 1000 sq. ft., a crosswise strength of 28-35 pounds and a densometer test of about 20 seconds.

2,330,814. Composite sheet material and method of making the same. Richard G. Drew, assignor to Minnesota Mining & Manufacturing Company, St. Paul, Minn. Filed March 30, 1929. 11 claims. (Cl. 92-40). In an adhesive tape the backing includes paper material and a woven fabric; the adhesive is rubber.

2,330,834. Coating machine. Williard A. Meyer and Frank E. Beck, assignors to American Can Company, New York, N. Y. Filed May 15, 1941. 4 claims. (Cl. 91-33). In the application of a film of fluid coating material to a moving web, means for imparting tension to the web and a metering rod for uniformly distributing the coating substance on the web.

2,330,836. Magnesium basic carbonate. Lewis B. Miller, assignor to Keasbey & Mattison Company, Ambler, Pa. Filed March 6, 1940. 4 claims. (Cl. 106-121). A precipitated magnesium basic carbonate is claimed, less than 20% of which are separately discernible at 100 magnifications.

2,330,880. Coating machine. Wiltie I. Gladfelter and Carl C. H. Hauger, assignors to Crown Cork & Seal Company, Inc., Baltimore, Md. Filed July 16, 1940. 18 claims. (Cl. 91-45). A method of coating articles by means of a spray.

2,330,889. Roll doctor. Norval J. Halcomb, assignor to Paper Patents Company, Neenah, Wis. Filed June 28, 1941. 14 claims. (Cl. 92-74). A flexible doctor blade, with loading means for resiliently biasing the blade into contact with the roll.

2,330,891. Paper machine. Lloyd Hornbostel, assignor to Beloit Iron Works, Beloit, Wis. Filed Nov. 13, 1940. 4 claims. (Cl. 34-121). A water removing section arranged for free access to the front thereof for feeding the paper, removing the rolls and for free ventilation.

2,331,054. Method of preventing "killing" of adhesive in the forming of bonding seams between sheet portions. James L. Shively, assignor to Crown Zellerbach Corporation, San Francisco, Calif. Filed June 26, 1942. 3 claims. (Cl. 154-42). A method of assuring the bonding of two sheets completely across the seam.

2,331,067. Method of making rigid material of T-section from paper. Leonard A. Young, Detroit, Mich. Filed April 16, 1942. 18 claims. (Cl. 93-1). A method of fabricating garment hanger yokes and the like from paper stock.

2,331,154. Process of hydrogenating lignin. Homer Adkins, Madison, Wis. Filed Feb. 7, 1939. 8 claims. (Cl. 260-124). Lignin is heated with hydrogen under pressure in the presence of a copper oxide-containing hydrogenation catalyst.

October 12, 1943

2,331,394. Bituminous composition and method for producing the same. Sixten M. Hjelte, Stockholm, Sweden. Filed Sept. 30, 1941. 3 claims. (Cl. 106-281). A composition of bituminous material and precipitated calcium carbonate is formed at 150° C.

2,331,455. Process for the preparation of paper stock. Edwin Cowles, assignor to The Cowles Company, Princeton, N. J. Filed June 9, 1937. 3 claims. (Cl. 92-20). A method of defiberizing waste paper containing both light and heavy trash.

2,331,495. Match packet and method of making the same. John R. Nolan, assignor to The Diamond Match Company, New York, N. Y. Filed Oct. 7, 1941. 4 claims. (Cl. 93-2). A method of manufacturing a packet comprising a folded cover and a plurality of comb elements.

2,331,515. Calcium sulphate production. Roy W. Sullivan, assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed Feb. 29, 1940. 9 claims. (Cl. 23-122). A small amount of a proteinaceous substance is associated with anhydrite in aqueous suspension and stabilized by heating at 150-250° C.

2,331,533. Mechanism for feeding cardboard and like blanks to creasing, folding, or other treatment machinery. Edwin L. Bishop, Birmingham, England. Filed Jan. 28, 1942. 5 claims. (Cl. 271-32).

2,331,575. Safety paper and method of making same. Francis L. Simons, assignor to George La Monte & Son, Nutley, N. J. Filed Aug. 3, 1940. 13 claims. (Cl. 117-1). A base sheet with a coating of white mineral filler has a superficial coating of a dye without a binder vehicle which does not penetrate the mineral coating and is readily removable by mechanical erasure.

2,331,610. Adhesive sheet material. Milton H. Kemp, assignor to The Kendall Company, Boston, Mass. Filed Sept. 16, 1940. 11 claims. (Cl. 117-60). A transparent adhesive tape with a basis of regenerated cellulose.

2,331,814. Seam for woven wire fabrics and method of making same. William J. Taylor, assignor to Wilson Wire Works, Inc., Kearny, N. J. Filed Feb. 6, 1943. 4 claims. (Cl. 245-10). The last weft wire in each bend of the belt where the seam is to be formed is made of stainless steel.

October 19, 1943

2,331,894. Adhesive tape and method of making same. Richard G. Drew, assignor to Minnesota Mining & Manufacturing Company, St. Paul, Minn. Filed May 1, 1931. 3 claims. (Cl. 117-122). A tape impermeable to organic solvents.

2,331,922. Process of coating paper. William J. Montgomery, assignor to The Champion Paper and Fibre Company, Hamilton, Ohio. Filed Aug. 3, 1940. 13 claims. (Cl. 117-64). In manufacturing a coated paper with a noncast surface the coating composition comprises adhesive, mineral filler and an insoluble soap.

2,331,936. Method of improving the processing of refined chemical pulp into viscose by adding cation active agents. Paul H. Schlosser and Kenneth R. Gray, assignors to Rayonier Incorporated, San Francisco, Calif. Filed March 1, 1940. 15 claims. (Cl. 260-217). A refined chemical pulp, containing not more than 0.15% of ether-soluble material, is treated with 0.1-0.2% quaternary ammonium compound which is dispersible in and whose cation is stable in solutions of alkali hydroxides.

2,331,951. Printing of molten sulphur. Burchard U. Wright and Paul V. McKinney, said McKinney assignor to Texas Gulf Sulphur Company, New York, N. Y. Filed July 26, 1940. 2 claims. (Cl. 117-15). Molten sulphur is spread upon the surface of a printing block and the film impressed upon the surface of paper.

2,332,099. Method for sterilizing closures for containers. Ronald B. McKinnis, assignor to McKinnis Foods, Winter Haven, Fla. Filed Dec. 22, 1941. 8 claims. (Cl. 21-2). The seals of containers containing foodstuffs are subjected to infrared radiations.

2,332,101. Container closure forming blank and method of producing the same. Philip Mancuso, assignor to Thermo-Plastic Bottle Sealing Corporation, New York, N. Y. Filed Feb. 20, 1939. 11 claims. (Cl. 154-2).

2,332,137. Adhesive sheeting. Richard G. Drek, assignor to Minnesota Mining & Manufacturing Company, St. Paul, Minn. Filed June 10, 1933. 5 claims. (Cl. 117-122). The adhesive is a rubber base material which is normally nontacky.

2,332,169. Method of greaseproofing porous materials. Albert A. Robbins, Berkeley, Calif. Filed Feb. 6, 1939. 13 claims. (Cl. 117-86). The surface is treated with a water-soluble adhesive carrying an acid and its water-soluble salt (e.g., acetic or nitric acid) and then with a cellulose compound (acetate or nitrate).

2,332,219. Roofing and siding material and process of making the same. Norman P. Harshberger, assignor to Carbide and Carbon Chemicals Corporation, New York, N. Y. Filed Oct. 24, 1938. 14 claims. (Cl. 117-21). The base is coated with a mixture of asphalt (melting above 400° F.) and metallic flakes (e.g., mica).

2,332,221. Building material and method of producing the same. Norman P. Harshberger, assignor to Carbide and Carbon Chemicals Corporation, New York, N. Y. Filed Nov. 3, 1939. 8 claims. (Cl. 117-25). A weather-exposed protective layer for a coated base consists of hard mica flakes.

2,332,226. Manufacture of paper. Leslie W. Hutchins, assignor to Standard Oil Development Company, Linden, N. J. Filed Nov. 2, 1940. 2 claims. (Cl. 92-21). A hardwood sulphite pulp containing 0.25-1% of an emulsified petroleum oil (30-35%) is mixed with 65-70% of spruce pulp and formed into paper; this has improved fold and strength.

2,332,324. Method and apparatus for folding valves in the corners of bags and closing the ends of the bags by sewed seams. Harry E. Lee and Frank M. Holter, assignors to St. Regis Paper Company, New York, N. Y. Filed March 6, 1940. 12 claims. (Cl. 112-10).

2,332,369. Method of making low density water resisting fibrous products. John O. Burton, assignor to Minnesota and Ontario Paper Company, Minneapolis, Minn. Filed Sept. 27, 1941. 6 claims. (Cl. 92-21). A product having a density of 0.75 to 5 pounds per cubic foot is prepared from vegetable material and waste pulping liquors, the latter giving a stable foam because of the colloids present.

2,332,371. Continuous winding machine. Wesley S. Corbin and Charles S. Hartman, assignors to Scott Paper Company, Chester, Pa. Filed Sept. 1, 1942. 8 claims. (Cl. 242-56). A machine for converting a continuously traveling web into a plurality of rolls of predetermined web content.

2,332,385. Apparatus for coating. Edgar A. Lauring, assignor to Minnesota and Ontario Paper Company, Minneapolis, Minn. Filed July 3, 1941. 5 claims. (Cl. 91-30). A coater for fiberboard.

October 26, 1943

2,332,530. Apparatus for the manufacture of handle attachments for paper bags. Edward K. Robinson and John Bagnall, assignors to Canada Paper Company, Montreal, Canada. Filed June 23, 1941. 17 claims. (Cl. 93-1).

2,332,544. Process and machine for the manufacture of envelopes of paper or similar material. Alfred Winkler, Max Dünnebier, and Karl Gelpke, Neuwied, Germany; vested in the Alien Property Custodian. Filed June 26, 1940. 6 claims. (Cl. 93-61).

2,332,703. Cement-fiber board. Armin Elmendorg, Winnetka, Ill. Filed Oct. 26, 1940. 11 claims. (Cl. 154-45.9). A panel for structural purposes.

2,332,750. Paper manufacture. Joseph E. Plumstead, assignor to Raffold Process Corporation, Andover, Mass. Filed Oct. 5, 1938. 22 claims. (Cl. 92-21). A filled paper contains fibrous material, alkaline filler, a water-insoluble copper compound formed from a water-soluble copper compound and a size selected from the group consisting of rosin or fatty acid sizes.

2,332,886. Apparatus for drying sheets. Hermann Basler, Berlin-Dahlem, Germany; vested in Alien Property Custodian. Filed Feb. 27, 1940. 3 claims. (Cl. 34-144). A press comprises a plurality of pressure plates with recesses in each surface.

2,333,023. Container wall. Willard O. Manor, assignor to Consolidated Paper Company, Monroe, Mich. Filed May 23, 1940. 1 claim. (Cl. 117-76). A coated container wall of fiberboard comprises water-dispersed clay and adhesive in association with a coating of polyvinyl alcohol and starch.

2,333,034. Coated abrasive. Nicholas E. Oglesby, Charles F. Reilly, and Victor W. Gilbert, assignors to Behr-Manning Corporation, Troy, N. Y. Filed Feb. 6, 1937. 17 claims. (Cl. 51-185).

2,333,035. Coated abrasive. Nicholas E. Oglesby, assignor to Behr-Manning Corporation, Troy, N. Y. Filed Nov. 8, 1939. 16 calims. (Cl. 51-185).

November 2, 1943

2,333,330. Container and method of manufacture. George A. Moore, New York, N. Y. Filed Jan. 7, 1941. 5 claims. (Cl. 93-35). A method of laminating an outer fibrous body to an inner nonfibrous impervious liner.

2,333,369. Coating machine. Jesse L. Glickman, Brooklyn, N. Y. Filed Jan. 3, 1941. 2 claims. (Cl. 91-49). A latex applying apparatus for use with absorbent sheets to manufacture artificial leather.

2,333,440. Bagmaking machine. Adolph Potdevin, assignor to Potdevin Machine Company, Brooklyn, N. Y. Filed Jan. 17, 1940. 6 claims. (Cl. 93-18).

2,333,543. Control mechanism for liquid coating apparatus. Clair L. Martin, assignor to The American Paper Bottle Company, Toledo, Ohio. Filed June 12, 1941. 4 claims. (Cl. 91-46). An apparatus for coating containers with a liquid, such as molten paraffin.

November 9, 1943

2,333,629. Coating process. Warren E. Beadle, Sr., assignor to Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis. Filed July 14, 1941. 4 claims. (Cl. 117-111). A method of coating a continuously advancing, relatively flexible fibrous web.

2,333,641. Luminous adhesive sheet. Carlton H. Corwin, assignor to Minnesota Mining & Manufacturing Company, St. Paul, Minn. Filed March 28, 1940. 3 claims. (Cl. 250-80). The adhesive coating includes a white reflective pigment and a luminous material visible through the backing.

2,333,676. Adhesive composition. John E. Robinson, assignor to American Can Company, New York, N. Y. Filed Feb. 21, 1941. 2 claims. (Cl. 260-27). The adhesive consists of about 70% of vinyl acetate and 30% of a pentaerythrityl abietate resin and is suitable for use on containers of fibrous material at 350-450° F.

2,333,750. Apparatus and method for applying gummed labels to cellophane. John K. Tompkins, Narnerth, Pa. Filed May 6, 1942. 10 claims. (Cl. 216-21).

2,333,779. Waterproof adhesive composition and method of making same. Edwin O. Groskopf, assignor to The Patent and Licensing Corporation, New York, N. Y. Filed Sept. 28, 1939. 2 claims. (Cl. 252-311.5). The adhesive is an emulsion of 50-60% of asphalt and 2-3% of bentonite with small amounts of oxalic acid and 3-10% of kerosene.

2,333,902. Paper coating device. William F. Thiele and Warren E. Beadle, Sr., assignors to Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis. Filed Dec. 8, 1941. 5 claims. (Cl. 91-48). Rolls for applying coating materials to a continuous web.

2,333,916. Stabilization of bleach baths of high alkalinity. Donald J. Campbell and William H. Loftus, assignors to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed Sept. 25, 1940. 15 claims. (Cl. 252-186). A peroxygen bleach bath with a pH of at least 11.5 contains an alkali pyrophosphate and a soluble magnesium salt as the stabilizing agent.

2,333,919. Detergent paper towel. Marcellus T. Flaxman, assignor to Union Oil Company of California, Los Angeles, Calif. Filed Dec. 30, 1940. 8 claims. (Cl. 252-91). A towel for cleaning glass contains 0.01-0.2% by weight of tetrasodium or tetrapotassium pyrophosphate.

2,333,979. Safety paper. Rexford H. Bradt, assignor to Fox River Paper Corporation, Appleton, Wis. Filed Aug. 15, 1941. 1 claim. (Cl. 117-1). The paper base contains clay, calcium carbonate, and a binder, and a color-changing agent of the benzidine group chemically neutralized with phosphoric acid.

2,334,030. Tear strip applying mechanism for gum stick wrapping machines. Willet B. Ranney and Albert F. Ruhf, assignors to Wm. Wrigley Jr. Company, Chicago, Ill. Filed Feb. 17, 1943. 8 claims. (Cl. 93-1).

2,334,087. Coating apparatus. George Goebel and Harry A. Rau, assignors to Crown Cork Seal Company, Inc., Baltimore, Md. Filed Oct. 17, 1938. 10 claims. (Cl. 91-45).

2,334,098. Process for forming water-resistant glue films. John R. Hubbard, assignor to Peter Cooper Corporation, Gowanda, N. Y. Filed Nov. 8, 1940. 7 claims. (Cl. 106-135). A process of increasing the wet strength of fibrous materials by producing water-resistant size (glue) films on the fibers.

2,334,102. Coating equipment. Toivo A. Kauppi, Roger W. Kolderman, and Richard S. McClurg, assignors to The Dow Chemical Company, Midland, Mich. Filed Aug. 26, 1940. 2 claims. (Cl. 91-53). The patent covers a rotatable smooth doctor rod disposed transversely of the path of the sheet material.

November 16, 1943

2,334,213. Machine for making container parts. John H. Murch, assignor to American Can Company, New York, N. Y. Filed July 26, 1941. 10 claims. (Cl. 93-36).

2,334,224. Can sealing machine. John E. Socke, assignor to American Can Company, New York, N. Y. Filed Aug. 12, 1941. 12 claims. (Cl. 216-21). A machine for applying a tape to a container.

2,334,236. Coated cellulosic material. Harold W. Arnold, George L. Dorough, and George H. Latham, assignors to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed Dec. 11, 1940. 7 claims. (Cl. 117-145). The coating material is a copolymer of unsymmetrical dichloroethylene and at least one different polymerizable compound.

2,334,256. Method of and apparatus for making bags. Lewis B. Eaton, assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass. Filed March 25, 1942. 10 claims. (Cl. 93-3).

2,334,381. Method of making tear strip wrappers. Wilhelm B. Bronander, Montclair, N. J. Filed Feb. 20, 1940. 2 claims. (Cl. 93-1).

2,334,485. Apparatus for combining materials. Joseph Ettl, assignor to Potdevin Machine Company, Brooklyn, N. Y. Filed June 14, 1940. 14 claims. (Cl. 154-37). A machine for combining a base material and a material which becomes tacky upon heating.

2,334,572. Manufacture of abrasive materials. Romie L. Melton and Raymond C. Benner, assignors to The Carborundum Company, Niagara Falls, N. Y. Filed Dec. 29, 1941. 7 claims. (Cl. 51-293).

2,334,607. Peptizing agent. Edward F. Christopher, assignor to Industrial Patents Corporation, Chicago, Ill. Filed June 16, 1939. 22 claims. (Cl. 106-146). Casein is dissolved in water containing soluble salts of phthalic acid or substituted derivatives of phthalic acid, phthalimide and its derivatives, maleic acid, succinic acid, etc.

2,334,620. Method for recovering by-products from pulp waste liquor residues. Edward G. Goodell, Stevens Point, Wis. Filed April 10, 1940. 3 claims. (Cl. 202-3). A method of destructively distilling the granulated predried whole spent liquor solids at 400-1600° F. to recover phenolic compounds.

2,334,621. Method of treating sulphite waste liquors. Edward G. Goodell, Stevens Point, Wis. Filed Sept. 26, 1940. 4 claims. (Cl. 23-48). A method is proposed for spray-drying calcium sulphite waste liquor in a stream of hot gases and burning the powder in an oxygen-containing gaseous medium, giving calcium oxide, sulphate, and carbonate.

2,334,634. Fiberboard carton. James Larrimore, Otto L. Scheller, and Stanley M. Jackson, assignors to Loose-Wiles Biscuit Company, Long Island City, N. Y. Filed Oct. 10, 1942. 2 claims. (Cl. 229-3.1). A waterproof carton.

2,334,658. Envelope machine attachment. Elijah G. Vallier, assignor to Western States Envelope Company, Milwaukee, Wis. Filed April 2, 1942. 8 claims. (Cl. 93-61).

November 23, 1943

2,334,694. Panel board. Clements Batcheller, assignor to Allegheny Ludlum Steel Corporation, Pittsburgh, Pa. Filed Jan. 26, 1939. 6 claims. (Cl. 154-45.9). A semiflexible wall panel sheet consists of a facing of thin sheet metal and a hard backing board.

2,334,721. Drying apparatus. James H. A. S. McMordie and Manson E. Wood, assignors to Dewey and Almy Chemical Company, North Cambridge, Mass. Filed Aug. 2, 1940. 15 claims. (Cl. 34-159).

2,334,762. Stable tall oil product. Torsten Hasselstrom, Savannah, Ga. Filed Dec. 11, 1939. 9 claims. (Cl. 260-97.5). Crude or refined sulphate tall oil is heated for 1-24 hours at 200-300° C., whereby the resinic portions are converted to oxygen-stable substances.

2,334,793. Toilet paper roll winding apparatus. Lino Scussa, Phoenix, N. Y. Filed June 26, 1940. 18 claims. (Cl. 242-64).

2,334,805. Container. Cesare Barbieri, assignor to Dixie-Vortex Company, Chicago, Ill. Filed July 3, 1940. 5 claims. (Cl. 229-5.5). A one-piece flat-bottom paper container.

2,334,959. Evaporating apparatus. Curt F. Rosenblad, assignor to Aktiebolaget Rosenblads Patenter, Stockholm, Sweden. Filed Aug. 14, 1940. 7 claims. (Cl. 159-13).

2,334,963. Laminating machine. Isidore Spinner, Christian B. Nelson, and Gustave Schieman, assignors to International Plastic Corporation, Chicago, Ill. Filed Dec. 8, 1941. 5 claims. (Cl. 154-36).

2,335,002. Cutter-colloid mill. Edwin G. Eppenbach, Manhasset, N. Y., and Leslie C. Fisher, said Fisher assignor to Eppenbach. Filed April 7, 1942. 5 claims. (Cl. 83-13).

2,335,019. Moistureproof package. Charles D. Mullinix, South Pasadena, Calif. Filed July 19, 1943. 6 claims. (Cl. 229-87).

2,335,033. Apparatus for applying gummed labels to cellophane or the like. John K. Tompkins, Narberth, Pa. Filed April 3, 1942. 8 claims. (Cl. 216-30).

2,335,104. Latex adhesive. Kenneth W. Britt and Wesley S. Corbin, assignors to Scott Paper Company, Chester, Pa. Filed Feb. 6, 1940. 6 claims. (Cl. 260-728). A "self-setting" flexible adhesive contains 20-50% of rubber latex, 20-30% of sodium silicate, and aluminiferous cement.

2,335,176. Machine for applying adhesives to strip materials. Joseph Ettl, assignor to Potdevin Machine Company, Brooklyn, N. Y. Filed April 30, 1937. 26 claims. (Cl. 91-50).

2,335,177. Machine for handling strip material. Joseph Ettl, assignor to Potdevin Machine Company, Brooklyn, N. Y. Filed Sept. 19, 1942. 7 claims. (Cl. 91-50). A method for coating strip material.

2,335,178. Method of coating strip material. Joseph Ettl, assignor to Potdevin Machine Company, Brooklyn, N. Y. Filed Sept. 19, 1942. 6 claims. Cl. 117-103).

2,335,202. Paper container blank. Isaac L. Wilcox, assignor to Oswego Falls Corporation, Fulton, N. Y. Filed Jan. 21, 1941. 3 claims. (Cl. 229-4.5). A flat rectangular container body blank.

2,335,209. Treatment of liquids from papermaking processes. Robert B. Booth, assignor to Chemical Construction Corporation, New York, N. Y. Filed April 5, 1941. 7 claims. (Cl. 210-53). White water is subjected to a froth flotation in the presence of an ammonium soap of tall oil.

November 30, 1943

2,335,313. Method for producing laterally stretchable webs. William W. Rowe and Warren A. Morris, assignors to Cincinnati Industries, Inc., Cincinnati, Ohio. Filed May 15, 1939. 11 claims. (Cl. 154-33.05). A process of corrugating a creped web.

2,335,333. Coating and process for applying same. Marcellus E. Wysong, assignor to Wysong Plastic Coating Corporation, Springfield, Mass. Filed July 14, 1930. 2 claims. (Cl. 117-15). A sheet of fibrous material is

coated with polyvinyl acetate, printed, and then coated with cellulose acetate.

2,335,348. Cementing machine. Wilbur L. MacKenzie, assignor to United Shoe Machinery Corporation, Flemington, N. J. Filed Nov. 5, 1941. 22 claims. (Cl. 91-50). A machine for applying adhesive to a shoe part.

2,335,349. Adhesive applying machine. Wilbur L. MacKenzie, assignor to United Shoe Machinery Corporation, Flemington, N. J. Filed Feb. 11, 1942. 13 claims. (Cl. 91-50). A machine for applying adhesive to a shoe part.

2,335,462. Method and apparatus for treating felt. Frederick G. Sommerville, assignor to Armstrong Cork Company, Lancaster, Pa. Filed July 27, 1940. 8 claims. (Cl. 154-27). A method of producing a vibration-damping felt having improved flexibility and pliability characteristics.

2,335,702. Artificial leather manufacture. Milton O. Schur and Edward M. Archer, assignors to Brown Company, Berlin, N. H. Filed April 2, 1942. 6 claims. (Cl. 117-140). The impregnating solution contains starch and rubber latex.

2,335,830. Papermaking. John A. Spencer, assignor to Spencer Specialties, Inc., West Springfield, Mass. Filed August 23, 1940. 2 claims. (Cl. 92-48). A method of operating a dandy roll.

2,335,831. Dandy roll construction. John A. Spencer, assignor to H. M. Spencer, Inc., South Hadley Falls, Mass. Filed Feb. 16, 1942. 2 claims. (Cl. 92-48).

2,335,841. Jordan shell filling. Dwight E. Jones, assignor to E. D. Jones & Sons Company, Pittsfield, Mass. Filed Sept. 4, 1941. 1 claim. (Cl. 92-27). A preconstructed lining section for a jordan engine shell.

December 7, 1943

2,335,908. Impregnating and coating composition and method of production. Joseph N. Borglin, assignor to Hercules Powder Company, Wilmington, Del. Filed Dec. 19, 1942. 15 claims. (Cl. 106-237). A solution of 0.1-10% of a dammar gum in a wood rosin in an alcohol or ketone has 10-90% of the rosin neutralized with sodium hydroxide, carbonate or bicarbonate.

2,335,931. Coating machine. Wiltie I. Gladfelter and William H. Moore, assignors to Crown Cork & Seal Company, Inc., Baltimore, Md. Filed Dec. 11, 1940. 18 claims. (Cl. 91-45).

2,335,932. Coating apparatus. Wiltie I. Gladfelter and William H. Moore, assignors to Crown Cork & Seal Company, Inc., Baltimore, Md. Filed Nov. 14, 1940. 14 claims. (Cl. 91-45).

2,335,970. Pressure control for paper-folding machines. Gerald W. Schmidt, assignor to Crown Zellerbach Corporation, San Francisco, Calif. Filed Nov. 30, 1940. 2 claims. (Cl. 270-80).

2,336,042. Fluid coating machine. John F. Smith, assignor to Compo Shoe Machinery Corporation, Boston, Mass. Filed May 3, 1941. 15 claims. (Cl. 12-80).

2,336,251. Wallboard. Gilbert A. Hoggatt, assignor to Certain-teed Products Corporation, New York, N. Y. Filed Jan. 4, 1940. 8 claims. (Cl. 154-45.9). A hydraulic setting cementitious material with a cover sheet of fibrous structure.

2,336,299. Sensitive material. John Russell, assignor to Eastman Kodak Company, Rochester, N. Y. Filed April 25, 1940. 4 claims. (Cl. 95-7). A product sensitive to heat and/or light consists of a paper sheet surfaced with a salt of anhydro-glucuronic acid and a metal (mercury, silver, etc.).

2,336,367. Paper and process for preparing the same. Fay H. Osborne, assignor to C. H. Dexter & Sons, Inc., Windsor Locks, Conn. Filed Dec. 21, 1942. 4 claims. (Cl. 92-21). A paper of silky appearance and improved finish is formed of fibers of Musa textilis to which are added 0.5-10% of an aqueous extract of psyllium seed before formation of the paper to prevent flocculation of the fibers.

2,336,401. Carton holding and waxing means. Thomas R. James, assignor to General Mills, Inc., Minneapolis, Minn. Filed May 31, 1941. 1 claim. (Cl. 91-60).

December 14, 1943

2,336,472. Treatment of tall oil and products obtained therefrom. Russell G. Dressler, Nutley, N. J., and Robert E. Vivian, Los Angeles, Calif. Filed Oct. 30, 1939. 12 claims. (Cl. 260-97.5). A process of hydrogenating tall oil consists in agitating the oil between 100-200° C. with 7.5-33.5% of an adsorbent substance, filtering, and treating with hydrogen at a pressure above 50 p. s. i. and a temperature of 150-200° C. in the presence of a catalyst.

2,336,481. Process of making spinning solution. Sverre Gulbrandsen, Neo S. Serinis, and George T. Traut, assignors to Industrial Rayon Corporation, Cleveland, Ohio. Filed April 1, 1940. 10 claims. (Cl. 106-167). A method of dissolving cellulose in cuprammonium hydroxide.

2,336,497. Fourdrinier machine with flexible side rails. Samuel Milne; Samuel H. Milne and John I. Melvin, Edinburgh, Scotland, executors. Filed Jan. 23, 1940. 3 claims. (Cl. 92-45).

2,336,507. Folding machine. Albert F. Shields, assignor to S. & S. Corrugated Paper Machinery Co., Inc., Brooklyn, N. Y. Filed April 2, 1940. 22 claims. (Cl. 93-49). A folding machine for forming flat, collapsed tubular box blanks.

2,336,540. Lined fiber tubing and process of making same. Charles B. Graves, assignor to Sefton Fibre Can Company, Maplewood, Mo. Filed Sept. 26, 1941. 3 claims. (Cl. 93-94). Process of manufacturing helically wound paper tubing with an impervious Pliofilm lining.

2,336,628. Method of felting sheet material. Carl G. Muench, assignor to The Celotex Corporation, Chicago, Ill. Filed October 18, 1939. 2 claims. (Cl. 92-39). A method of forming a felted board having a smooth and finely fibrous surface.

2,336,645. Paper-cutting machine spacing mechanism. Mortimer Sendor, New York, N. Y. Filed Dec. 11, 1941. 9 claims. (Cl. 164-59).

2,336,646. Apparatus for digester control. Rutcher Skagerberg, assignor to The Brown Instrument Company, Philadelphia, Pa. Filed July 9, 1936. 5 claims. (Cl. 92-7). A pressure responsive control means for a relief valve for a pulp digester.

2,336,672. Preparation of thermosetting resin. William R. Collings, Richard D. Freeman, and Richard M. Upright, assignors to The Dow Chemical Company, Midland, Mich. Filed Aug. 2, 1940. 11 claims. (Cl. 260-10). A method of pulping a lignocellulosic material with alkali and a water-soluble phenolate, cooling, adding an aldehyde, heating to cause reaction, and acidifying to precipitate a thermosetting resin product upon the suspended fibers.

2,336,798. Pulp beater. William M. Nash, assignor of one-fourth each to Roy A. Nash, Mary Nash Jones, and Marie Duvall Nash. Filed Dec. 20, 1941. 13 claims. (Cl. 92-22). A combination in a tub of a plurality of substantially vertical beaters with a partition extending between adjacent beaters.

2,336,962. Package making and filling machine. Leroy L. Salfisberg, assignor to Ivers-Lee Company, Newark, N. J. Filed Feb. 18, 1943. 7 claims. (Cl. 93-3).

2,337,013. Method of making coated paper. Donald B. Bradner and William J. Montgomery, assignors to The Champion Paper and Fibre Company, Hamilton, Ohio. Filed July 6, 1940. 4 claims. (Cl. 117-103). A method of making cast surfaced coated paper which comprises applying to one face of the web a layer (in excess of two pounds dry weight per thousand square feet of surface) of coating in aqueous suspension and evaporating the excess of water by a current of air.

December 21, 1943

2,337,040. Heat-treated rosin size. Edmund A. Georgi and Arthur L. Osterhof, assignors to Hercules Powder Company, Wilmington, Del. Filed Oct. 6, 1942. 9 claims. (Cl. 106-218). A rosin size containing from about 65-92% by weight of free rosin, about 7-34% by weight of rosin soap and about 1-25% of a protective colloid; the wood rosin used is treated for 5 min. to 5 hours at 250-350° C. before use.

2,337,063. Machine for making container parts. John F. Peters, assignor to American Can Company, New York, N. Y. Filed Aug. 8, 1941. 10 claims. (Cl. 93-36).

2,337,113. Pulp screen. Nelson M. Knight, assignor to Wilfred B. Mathewson, Weymouth, Mass. Filed Oct. 22, 1941. 12 claims. (Cl. 92-34). A vertical cylindrical screen within a casing.

2,337,125. Method of assembling prefabricated containers. John E. Page, assignor to Gibson Patent Containers, Ltd., Sydney, New South Wales, Australia. Filed Jan. 2, 1941. 3 claims. (Cl. 93-55.1).

2,337,163. Apparatus for conditioning paper. Samuel Milne; Samuel H. Milne and John I. Melvin, Edinburgh, Scotland, executors. A method of passing a relative hot and dry web of paper from a calender by means of cooling cylinders while moisture is applied to the web by means of felts.

2,337,192. Paper parachute. Dana B. Hastings, assignor to Dennison Manufacturing Company, Framingham, Mass. Filed Jan. 1, 1943. 7 claims. (Cl. 244-145). A parachute is made of creped paper.

2,337,235. Processing of tall oil. Eduard Fäber, assignor to Polyxor Chemical Co., Inc., New Haven, Conn. Filed Nov. 14, 1939. 1 claim. (Cl. 260-97.5). Tall oil is partially neutralized and fractionally distilled, giving an acidic and then a neutral distillate.

2,337,242. Decalcomania. Ferdinand W. Humphner, assignor to Mid-States Gummed Paper Co., Chicago, Ill. Filed March 30, 1940. 10 claims. (Cl. 41-33). A decalcomania for application to cellophane.

2,337,256. Preparation of azobenzene sulphonate. Harry F. Lewis and Irwin A. Pearl, assignors to The Institute of Paper Chemistry, Appleton, Wis. Filed Feb. 12, 1942. 5 claims. (Cl. 260-205). Alkaline sulphite waste liquor and nitrobenzene are heated to 120-130° C. to give *p*-azobenzenesulfonic acid (as the sodium salt).

2,337,288. Slice for papermaking machinery. William M. Wilson, Morristown, N. J. Filed Nov. 1, 1940. 1 claim. (Cl. 92-49).

2,337,377. Carbon paper. Pierre A. Dreyfus, assignor to Carfa A. G. Fabrik chemischetechnischer Bureaumaterialien, Pery, near Biel, Switzerland. Filed May 25, 1942. 1 claim. (Cl. 282-28). A sheet of carbon paper has on its reverse surface a coating of wax-like material.

2,337,404. Device for tightening wood barking drums. Robert D. Newton, Moss Point, Miss. Filed Nov. 12, 1940. 2 claims. (Cl. 144-208).

2,337,458. Method of making sized paper products. Earle R. Edson and Charles Quincy Ives, assignors to Le Page's, Inc., Gloucester, Mass. Filed Aug. 5, 1939. 1 claim. (Cl. 92-21). A method is claimed for sizing paper with a dry sizing consisting of rosin size compounded with an acidic starch conversion product.

2,337,459. Method of sizing paper with starch. Earle R. Edson and Charles Q. Ives, assignors to Le Page's, Inc., Gloucester, Mass. Filed Oct. 10, 1940. 9 claims. (Cl. 92-21). A method is proposed for adding a dry acidic, calcined starch product to the beater.

December 28, 1943

2,337,574. Filter and method for making the same. Edward C. Sloan and Augustus H. Eberman, assignors to Jesse B. Hawley, Geneva, Ill. Filed July 15, 1938. 13 claims. (Cl. 210-204). The process of forming a filter member from fibrous pulp.

2,337,575. Apparatus for making filters and the like. Edward C. Sloan and Augustus H. Eberman, assignors to Jesse B. Hawley, Geneva, Ill. Filed Nov. 17, 1941. 15 claims. (Cl. 92-54).

2,337,581. Sheet pulp container forming apparatus. Lee M. Wiley, Marion, Ind., assignor of one-third each to Julian T. Lett and Reeley B. Wiley. Filed Aug. 4, 1939. 14 claims. (Cl. 18-19).

2,337,610. Carton processing. Irwin Kotcher, Brooklyn, N. Y. Filed July 23, 1943. 5 claims. (Cl. 91-46). An apparatus for coating the interior and exterior of cartons.

2,337,724. Automatic decalcomania paper stripper. David S. Mackie, assignor to General Motors Corporation, Detroit, Mich. Filed March 18, 1942. 8 claims. (Cl. 41-1).

2,337,803. Box partition machine. Irving A. Deline, Denver, Colo. Filed Feb. 7, 1942. 8 claims. (Cl. 93-37). A machine for forming cartridge box partitions.

2,337,887. Paper and its production. Otto Hansen and Hans Scheuermann, assignors to General Aniline & Film Corporation, New York, N. Y. A paper with improved fastness to light, high folding value and wet strength is prepared by adding to the sizing material a product obtained by the action of an alkali salt of chloroacetic acid on wood pretreated with an alkali hydroxide and from which substantially no constituents have been removed by the pretreatment.

2,337,939. Heat-sealing moistureproofing coating. John P. Sermattel, Minneapolis, Minn. Filed Feb. 19, 1940. 12 claims. (Cl. 117-66). A thin supercalendered paper is impregnated with an excess of a composition comprising from 30 to 50% of a hard wax, from 10 to 30% of spermaceti, and from 14 to 22% of a cellulose ether. Winding the paper while the coating is hot, maintaining an elevated temperature for a sufficient time for the molten composition to saturate the paper, removing the excess coating, and smoothing and chilling the coating to produce a moistureproof and heat-sealable sheet.

2,337,981. Method of coating fiber containers. Hans A. Eggeras, assignor to Continental Can Company, Inc., New York, N. Y. Filed Jan. 16, 1942. 6 claims. (Cl. 117-95). The container is rotated about its axis with calendering rolls operating on the interior and exterior surfaces and applying a film of thermoplastic resin to one of the rolls which will transmit it to the surface.

2,338,019. Fiber container. Edward E. Baker and Carle C. Conway, Jr., assignors to Continental Can Company, Inc., New York, N. Y. Filed April 1, 1941. 6 claims. (Cl. 229-5.5). A container for liquid products.

Comparison of Methods for the Determination of Water Vapor Permeability*

Tests Conducted at the National Bureau of Standards

By C. G. Weber[1]

Abstract

Various methods for the determination of water vapor permeability were investigated at the National Bureau of Standards following a program which was initiated to standardize on the mode of procedure which assures maximum accuracy and reproducibility. The study included the General Foods method and modifications of it as well as the TAPPI Standard T 448 m.

In accordance with the program outlined at a meeting sponsored by the Technical Association of the Pulp and Paper Industry which was held in Chicago June 29, 1943, certain methods for the determination of water vapor permeability were conducted at the National Bureau of Standards while others were studied at the Institute of Paper Chemistry (1) The object of this combined effort was to determine the method by which water vapor permeability of extremely resistant materials can be secured with the maximum degree of accuracy and reproducibility.

The procedures investigated at the Bureau of Standards included the GFMVT method (2), a modification by which a constant rate of gain was ascertained, a further modification of the same test which omitted the desiccation step and the TAPPI Standard T 448 m "Water Vapor Permeability of Paper and Paperboard".

As the basic test methods are well known, they are not included in this report nor will the sampling procedure, since it also has been fully reported elsewhere. (1).

Results

Table I. shows permeability data for various materials tested in cooperation with the Institute of Paper Chemistry. The data in columns headed I and II are for duplicate specimens, and those headed "Blank" are for blanks made up in the regular manner differing from the test specimens only in that no desiccant was contained in the dishes. The first value in each instance is for gain of weight in the General Foods cabinet with the desiccant inside the dishes and the atmosphere within the cabinet maintained at 100° F. and approximately 95% relative humidity. The procedure was that prescribed in the General Foods method, except that repeated weighings were used to obtain a constant rate of gain. The data in parentheses are those obtained on the same specimens by weighing immediately upon removing specimens from the cabinet and before the desiccation step. Light aluminum covers were used to minimize changes of weight during this weighing.

Comparison of these data indicates quite clearly that the desiccation step is unnecessary. That step is definitely objectionable for several reasons, the most important of which is that it upsets greatly the con-

* Presented at the Army and Navy Requirements Conference of the Technical Association of the Pulp and Paper Industry, Palmer House, Chicago, Ill., Sept. 21-24, 1943.

[1] Member TAPPI; Assistant Chief of Paper Section, National Bureau of Standards, Washington, D. C.

TABLE I.—42 HOURS IN G.F. CABINET AND 4 HOURS IN DESICCATOR. WEIGHINGS AFTER DESICCATION MADE WITHOUT COVERS

Time in GF cabinet, hr.	g/m²/day I	g/m²/day II	g/m²/day Blank	g/m²/day I	g/m²/day II	g/m²/day Blank
	Renoflex, paper side moist					
16	12.8	13.5	15.6			
234 42	—1.0(—0.4)	—1.1(—1.5)	—1.1(—1.3)			
234 42	1.0(.5)	1.2(1.2)	1.4(0.6)			
234 66	.0(— .7)	— .1(— .3)	— .1(— .6)			
234 42	— .4(— .3)	— .3(— .4)	— .5(— .4)			
234 42	.4(.3)	.6(.2)	.4(.3)			
Average	.0(— .1)	.1(— .2)	.0(— .3)			
Net Gain		.1(.1)				
	Greaseproof Board, white side moist			Greaseproof Board, colored side moist		
16	79.3	79.7	86.0	80.5	79.6	61.0
234 42	14.7(15.6)	11.7(12.3)	.8(1.6)	49.3(49.0)	47.8(47.2)	7.5(6.6)
234 42	15.2(16.5)	14.2(15.9)	2.3(2.4)	55.6(56.2)	49.4(50.1)	1.9(2.6)
234 66	17.1(17.6)	14.0(14.9)	—1.2(— .1)	58.2(58.2)	63.7(63.7)	1.6(1.8)
234 42	10.9(9.4)	8.5(7.0)	—2.9(—3.2)	32.6(32.0)	36.5(34.9)	—1.6(—2.4)
234 42	11.6(10.5)	9.1(7.9)	.7(—1.5)	30.9(30.2)	29.7(28.9)	— .5(— .8)
Average	13.9(13.9)	11.5(11.4)	— .1(— .2)	45.3(45.1)	45.4(45.0)	1.8(1.6)
Net Gain		12.8(12.9)			43.6(43.5)	
	Cellophane			3-ply Glassine		
16	12.1	11.3	8.6	8.1	7.8	6.2
190½ 41	10.9(11.2)	10.6(11.0)	3.6(4.0)	3.0(3.2)	2.9(3.1)	1.9(2.9)
190½ 66	11.5(11.6)	10.7(10.8)	2.2(2.5)	2.2(2.2)	1.5(1.4)	.7(.4)
190½ 41½	Break in seal	10.0(9.9)	1.0(.8)	2.3(1.5)	1.5(.9)	.5(.1)
190½ 42		10.3(10.3)	.9(.9)	2.1(2.1)	1.5(1.2)	.3(.2)
Average		10.4(10.5)	1.9(2.1)	2.4(2.3)	1.9(1.7)	.9(.9)
Net Gain		8.5(8.4)			1.3(1.1)	
	Pliofilm			Ethyl Cellulose		
16	8.2	7.9	2.7	133	146	27.5
190½ 41	7.3(7.7)	7.2(7.5)	.8(1.2)	126(128)	135(137)	3.1(3.0)
190½ 66	7.0(7.1)	6.9(7.0)	.2(.5)	121(122)	131(132)	— .3(.3)
190½ 41½	6.9(6.8)	6.8(6.7)	.2(— .2)	113(112)	121(121)	.2(—1.5)
190½ 42	6.6(6.7)	6.5(6.6)	.1(.2)	102(103)	110(111)	.3(— .5)
Average	7.0(7.1)	6.9(7.0)	.3(.4)	116(116)	124(125)	.8(.3)
Net Gain		6.7(6.7)			119(121)	

Figures in parentheses from weighings made before desiccation with covers on dishes.

TABLE II.—2-DAY INTERVALS IN G.F. CABINET, DIRECT WEIGHINGS WITH ALUMINUM COVERS, DESICCATION STEP NOT USED

Time in G.F. cabinet hr.	g/m²/day I	II	B	I+II 2—B	g/m²/day I	II	B	I+II 2—B	g/m²/day I	II	B	I+II 2—B	g/m²/day I	II	B	I+II 2—B
	Renoflex				Cellophane				Waxed Glassine				3-Ply Glassine			
16	12.7	13.1	10.0	2.9	13.5*	11.7	5.7	6.0	1.3	1.1	1.3	—0.1	5.7	5.6	5.1	0.6
47	.6	.2	.2	.2	12.5*	10.2	3.4	6.8	1.0	1.2	.9	.2	3.0	2.8	2.0	0.9
47½	—1.1	—.6	—.2	—.7	14.9*	8.3	1.7	6.6	.2	.5	.3	.1	1.9	1.4	.3	1.4
71	.2	.0	.3	—.2	Cut or	7.7	1.0	6.7	.4	.3	.2	.2	1.7	1.7	.9	.8
47	.7	.3	.1	.4	crack in	8.4	1.4	7.0	.7	.5	.4	.2	1.6	1.2	.3	1.1
47	— .2	—.1	.2	—.4	specimen	7.9	.7	7.2	.4	.5	.3	.2	2.0	1.8	1.1	.8
48	.2	.1	.0	.2	near	8.1	.7	7.4	.6	.5	.4	.2	1.3	1.1	.0	1.2
260½	.0	—.1	.1	—.2	edge	8.1	1.1	7.0	.5	.5	.3	.2	1.7	1.5	.6	1.0
	Greaseproof Board white side moist				Greaseproof Board colored side moist				Pliofilm				Ethyl Cellulose			
18	61.0	63.8	60.5	1.9	63.7	85.2	33.9	40.6	7.2	7.0	2.4	4.7	129	129	27.0	102
47	12.6	13.5	4.1	9.0	53.0	60.5	9.9	46.9	6.9	7.1	.6	6.4	128	128	1.8	126
71	7.3	7.1	—2.0	9.2	36.5	36.8	.2	36.5	6.4	6.3	.1	6.3	116	118	—.4	117
47	11.8	11.8	1.6	10.2	35.0	31.2	.7	32.4	6.5	6.6	.6	6.0	114	114	1.1	113
47	12.1	12.6	1.9	10.5	43.4	42.6	1.6	41.4	7.0	6.9	.4	6.6	112	111	1.1	110
71	10.3	11.1	— .2	10.9	32.4	35.7	—.3	34.4	6.2	6.3	.1	6.2	102	103	—.1	103
47	10.5	11.1	—2.8	13.6	40.5	41.2	—.8	40.1	6.4	6.3	.1	6.3	104	103	—.4	104
283	10.1	10.4	— .4	10.7	36.8	37.3	.2	36.9	6.5	6.4	.2	6.3	109	110	.2	109
	Scutan light side moist				Scutan black side moist				Pyroxcote coated side moist				Pyroxcote plain side moist			
17	13.5	13.1	11.1	2.2	19.9	21.2	18.3	2.3	446	428	10.4	427	721	581	8.5	643
23									435	412	.8	423	627	348	—.6	488
24	8.8	6.7	1.7	6.1	7.2	7.9	2.0	5.6	417	378	—.4	398	568	280	—.9	425
47	9.3	7.1	1.2	7.0	7.4	7.9	.7	7.0	396	373	.0	385	423	157	—.2	290
47	9.6	7.4	1.4	7.1	7.6	8.1	1.2	6.7								
48	8.7	7.0	.9	7.0	6.7	7.5	.7	6.4								
47	9.0	7.0	.5	7.5	7.2	7.7	.5	7.0								
189	9.2	7.1	1.0	7.2	7.2	7.8	.8	6.7								

CaCl₂ had caked hard with some water in dish.

* Not included in average.

TABLE III.—TAPPI DESICCANT METHOD: 23° C. (73° F.), 50 R.H. to $MgClO_4$

Interval between weighings hr.	g/m²/day I	II	B	I+II 2—B	g/m²/day I	II	B	I+II 2—B	g/m²/day I	II	B	I+II 2—B	g/m²/day I	II	B	I+II 2—B
	Renoflex				Cellophane				Waxed Glassine				3-Ply Glassine			
68	0.1	0.1	0.2	—0.1	0.8	1.0	0.3	0.6	0.1	0.0	0.2	—0.1	0.4	0.1	0.3	0.0
48	—.1	—.1	—.2	.1	.9	.8	.0	.9	—.1	.1	.1	— .1	.1	.1	.0	.1
72	.0	.0	.0	.0	.9	.9	.0	.9	.3	.0	.0	.2	.1	.1	.0	.1
72	.1	.0	.1	.0	1.0	.9	.0	1.0	.1	.2	.0	.2	.2	.2	.0	.2
72	.0	—.1	—.1	.0	.6	.9	.0	.8	.0	.0	.0	.0	.3	.0	.0	.2
72	.2	.3	.2	.1	1.0	.9	.1	.9	.1	.2	.0	.2	.4	.0	.0	.1
72	.0	.0	.0	.0	.9	.7	.0	.8	.1	.1	.0	.1	.1	.1	.0	.1
408	.1	.0	.0	.1	.9	.9	.0	.9	.1	.1	.0	.1	.1	.1	.0	.1
	Greaseproof Board white side at 50 R.H.				Greaseproof Board colored side at 50 R.H.				Scutan light side at 50 R.H.				Scutan black side at 50 R.H.			
68	0.7	1.0	0.6	0.3	0.3	0.5	0.1	0.3	1.4	1.6	0.4	1.1	1.4	1.5	0.6	0.9
48	—.1	—.2	—.4	.2	.3	.2	.1	.2	1.1	1.2	—.1	1.3	.9	1.1	—.2	1.2
72	.2	.2	.1	.3	.1	.2	.1	.1	1.4	1.2	.1	1.2	1.2	1.3	.0	1.3
72	.4	.4	.3	.1	.4	.4	.1	.3	1.4	1.6	.1	1.4	1.1	1.3	.1	1.1
72	—.1	—.3	—.2	.0	.1	.2	.1	.1	1.2	1.0	—.1	1.2	1.0	1.2	—.1	1.2
72	.3	.6	.3	.2	.2	.3	.1	.2	1.4	1.6	.2	1.3	1.5	1.4	.2	1.3
72	.2	.2	—.1	.3	.4	.2	.0	.3	1.2	1.2	—.1	1.3	.9	1.1	—.1	1.1
408	.2	.2	.0	.2	.3	.2	.1	.2	1.5	1.3	.0	1.4	1.1	1.7	.0	1.4
	Pliofilm				Ethyl Cellulose				Pyroxcote coated side at 50 R.H.				Pyroxcote plain side at 50 R.H.			
68	0.8	1.1	0.1	0.9	32.5	31.8	0.6	31.6	27.1	18.0	0.4	22.2	36.3	28.7	0.3	32.2
47	.9	.9	—.1	1.0	31.4	30.9	—.7	31.9	28.6	18.8	.0	23.7	42.5	35.8	—.1	39.3
72	1.0	.8	.1	.8	32.0	31.5	.1	31.7	31.8	21.5	—.1	26.8	67.8	55.7	.1	61.7
72	.9	.9	.0	.9	32.7	31.8	.1	32.2	32.5	21.9	.1	27.1	71.7	61.1	.0	66.4
72	1.0	.9	.0	1.0	30.9	30.4	—.3	31.0	32.5	21.9	—.1	27.3	70.6	63.3	—.1	67.1
72	.8	.9	.0	.9	31.0	30.4	.6	30.1	31.6	21.2	.2	26.2	67.4	62.6	.1	64.9
72	.9	.9	.0	.9	30.4	30.4	.5	29.9	32.8	21.9	—.1	27.5	47.2	64.5	.0	55.9
408	.9	.9	.0	.9	31.4	30.8	—.1	31.2	31.7	21.3	.0	26.5	62.2	58.3	.0	60.3

TABLE IV.—MOISTURE PERMEABILITY BY VARIOUS PROCEDURES

Material tested	Side toward higher humidity	General Foods Cabinet Table II g/m²/d	General Foods Cabinet Table I Before desic. g/m²/d	General Foods Cabinet Table I After desic. g/m²/d	Regular G.F. procedure g/m²/d	TAPPI method Table III g/m²/d	TAPPI × 5 g/m²/d	100 / d.i.t.*
Renoflex	paper	—0.2	0.1	0.1	0.2	0.1	0.5	0
Waxed glassine		.2	....	....	.7	.1	.5	250
Three-ply glassine		1.0	1.1	1.3	1.5	.1	.5	2.3
Greaseproof board	gr. pr.	36.9	43.5	43.6	30.4	.2	1.0	4.2
	white	10.7	12.9	12.8	8.5	.2	1.0	10
Pliofilm		6.3	6.7	6.7	6.7	.9	4.5	10
Cellophane		7.0	8.4	8.5	6.9	.9	4.5	25
Scutan	black	6.7	....	....	8.7	1.4	7.0	1
Scutan	light	7.2	....	....	7.8	1.4	7.0	1
Ethyl cellulose		109	121	119	126	31.2	156	17
Pyroxcote	coated	423	....	....	123	26.5	133	50
Pyroxcote	plain	488	....	....	205	60.3	302	1000

* d.i.t. = dry indicator test time in hours.

All figures for water vapor permeability in this table are the net values (average of duplicates minus the blank) for the steady-state period, except for the regular G.F. procedure, in which no blank is tested.

ditions of the test each time a weighing is made. Hence, the materials were next tested by a further modification of the General Foods method with the desiccation step eliminated entirely. Stability during weighing was obtained by use of the light aluminum covers. They were placed on the dishes immediately after removing them from the cabinet and were removed when the dishes were returned to the cabinet. The data obtained by this method are shown in Table II.

Table III shows data for the same materials tested by the TAPPI method (desiccant procedure).

Table IV is a summary of the results obtained by all of the procedures including the regular General Foods procedure, not reported in the other tables. All data show net rate of gain except those obtained by the regular General Foods method, which prescribes an arbitrary time of exposure with no attempt to establish a constant rate of gain. Since the vapor pressure difference in the high temperature and humidity testing is nearly five times that of the TAPPI method, one column shows values "TAPPI x 5" to facilitate comparison with values obtained by the other methods. The values in the column on the extreme right are presented to indicate the relationship between time of water penetration by the TAPPI dry-indicator method and the values for vapor permeability.

Conclusions

It will be noted from the data in Table IV, approximately the same order was established by the various methods. However, there are some important exceptions. The TAPPI method did not differentiate between the Renoflex, waxed glassine, and three-ply glassine, whereas important differences were obtained when tested at high temperature and humidity, as illustrated in the column headed "Table II." Also, the greaseproof board, which is a laminated product, showed up well under the TAPPI method, whereas it was given a very poor rating by the other method. Thus, the data indicate the importance of using more drastic conditions than those imposed by the TAPPI method when attempting to predict the performance of a material which is to be used under the more severe conditions of humidity and temperature.

The results of the tests thus far have indicated that the General Foods cabinet can be used for testing at high humidity and temperature with fairly satisfactory results if the procedure used in obtaining the results in Table II is followed. That is to say, repeated weighings should be made until a net rate of gain is established and light covers should be used to cover the specimens during weighing, thus eliminating the objectionable desiccation step employed in the regular General Foods procedure.

The use of aluminum covers for stabilizing the weight of the test specimens was considered reasonably successful. They did not give perfect protection, mainly because no attempt was made to refine the technique of using them. However, when the covers are used on the same respective dishes for each weighing, and the dishes weighed in the same order each time, no appreciable error was apparent as a result of unstability during weighing.

Ed. Note:
Pyroxcote is a trade name for a variety of papers, the characteristics of which differ in certain respects. The data included in this paper pertains to a grade which is not classified by the manufacturer as water vapor proof.

Literature Cited

1. Sears, G. R., Schlagenhauf, H. A., Givens, J. C., and Yett, F. R., *Paper Trade J.* 118 No. 3 (Jan. 20, 1944)
2. Symington, F. S., and Burroughs, R. F., *Fibre Containers* 28 No. 4:107-109 (1943)

Lake States TAPPI Discusses Resins

The Lake States Section of the Technical Association of the Pulp and Paper Industry met at the Conway Hotel, Appleton, Wis., on Tuesday evening, January 11. Lewis Klein, Vice-President of the Resinous Products and Chemical Company, Philadelphia, Pa., talked on "Synthetic Resins for Papermakers." He pointed out that in general, a resin to be suitable for the papermaker must be in a form that can be applied with conventional papermaking equipment such as beaters, sprayers, coaters, papermachine wet end, etc. He reviewed the phenol formaldehyde, alkyd, vinyl, acrylic, melamine-formaldehyde and urea-formaldehyde types with respect to raw materials used, forms available and applications now made in the industry. The use and effect of the new urea-formaldehyde resin, Uformite 466, was completely described. The product has high wet strength, burst and fold, is applied in the beater and has good retention properties.

Those present included: Francis J. Allard, J. W. Appling, A. W. Ayles, Carl Baerman, A. G. Beaman, A. G. Belaire, C. K. Black, Paul Boronow, M. F. Bretl, L. J. Broehm, A. H. Banks, V. S. Burstein, T. Collins, H. P. Dixon, M. L. Downs, R. T. Elias, G. F. Enderlein, F. S. Erler, T. N. Folstad, L. V. Forman, J. Francois, H. V. Fredricks, J. P. Gerhauser, L. A. Gilbertson, John Graff, John Handyside, Fred Hanson, A. J. Haug, T. Heiss, M. Henig, E. Heuser, R. N. Hollands, E. C. Jacobi, H. S. Johnston, W. A. Johnson, P. E. Jones, M. J. Killian, R. P. Kirkeide, Louis Klein, J. Kryszak, S. I. Kukolich, G. T. Latham, M. A. Lefeare, A. Lewenstein, M. J. Long, N. L. Malcove, R. March, G. E. Martin, K. W. Max, Carl Moe, L. A. Moss, James Nick, J. O. Olsen, K. E. Olson, R. L. Osburn, F. C. Pavlick, P. A. Paulson, A. Phillips, J. R. Probst, W. B. Pusey, R. M. Radsch, M. Reif, R. Risley, R. J. Seidl, C. Sigvardt, L. E. Smith, L. J. Smith, Cliff Smett, M. J. Taylor, V. H. Truesdale, M. A. Van De Laarschat, L. Van Roy, J. P. Weidner, H. B. Wenberg, N. F. Wilmot, and J. C. Wallwage.

TAPPI Discusses Flat Screens

The Empire State Section of the Technical Association of the Pulp and Paper Industry met at the Woodruff Hotel, Watertown, N. Y. on Thursday, evening, January 13. The speaker was Allen A. Lowe, field engineer of the Sandy Hill Iron and Brass Works, Hudson Falls, N. Y., who discussed "The Flat Screen and Its Operation." The talk was illustrated with lantern slides and sketches reviewing the principles of flat screen design and operation. The use of the shaker screen as a knotter was explained. In operation considerable care needs to be given to consistency and control of the dilution water. Those present included: W. J. Argy, Wilfred Arsenalut, W. R. Benson, L. C. Burdick, S. Donaldson, Mr. Duers, E. G. Eaton, Philip Evans, W. E. Fitzgerald, E. A. Godfrey, F. C. Goodwill, R. J. Hackett, F. J. Hoar, H. A. Horstman, T. Hutterman, E. M. Jones, Frank Lang, A. B. Leachy, T. E. Loessi, Allen Lowe, E. Loyst, Joseph Martin, R. D. McCarron, M. D. Myers, E. S. Nuspiger, J. P. Ormsby, G. M. Pennock, E. A. Monealier, Henry Perry, Harold Remington, H. M. Rice, L. R. Sherman, Melville Smith, H. A. Spencer, P. D. Switzer, B. H. Treadwell, John Treadwell, E. F. Tucker, F. A. Walker, V. E. Ware, F. M. Williams, A. Woodside and Sheldon Young.

Comparison of Methods for the Determination of Water Vapor Permeability*

Tests Conducted at the Institute of Paper Chemistry

By G. R. Sears[1], H. A. Schlagenhauf[1], J. C. Givens[1], and F. R. Yett[1]

Abstract

It has been recognized that the present TAPPI Standard for the determination of water vapor permeability has its limitations in the evaluation of the more resistant materials and that the existing procedures should be compared before drafting a new method. Results are reported on the regular General Foods method, a modification of it to obtain a constant rate of gain, and The Institute of Paper Chemistry method.

On June 29, 1943 a meeting sponsored by the Technical Association of the Pulp and Paper Industry was held in Chicago for the consideration of water vapor permeability testing methods as a preliminary to drafting a TAPPI standard for the determination of water vapor permeability of the more resistant materials. During this conference is was agreed that additional comparisons of several methods of testing were needed before a suggested method could be presented.

It was proposed that a representative group of samples be tested by the following methods: (1) the General Foods water vapor transfer (GFMVT) method; (2) a modification of the General Foods method in which the cups were to be weighed periodically until the rate of gain in weight was constant; (3) a second modification of the General Foods method in which the water in the bottom of the cabinet was to be replaced with a saturated solution of dihydrogen ammonium phosphate (yielding an equilibrium relative humidity of 92% at 100° F.) and the cups were to be weighed periodically until the rate of gain in weight was constant; (4) a third variation of the General Foods method (called the weighing bottle method), in which the cups were to be covered during weighing and not desiccated; (5) The Institute of Paper Chemistry method; and finally, (6) TAPPI Standard T 448 m-41.

It was agreed that The Institute of Paper Chemistry would carry on tests by the GFMVT method, the constant rate variation of the GFMVT method, the constant rate variation of the GFMVT method with a saturated solution of dihydrogen ammonium phosphate in the cabinet, and the IPC method. This paper reports the results obtained by the first two and the last of these four methods; the results of the third procedure are not complete. The National Bureau of Standards carried on tests by the constant rate variation of the GFMVT method, the weighing bottle variation of the GFMVT method, and the TAPPI Standard method (*4*).

Samples and Sampling Procedures

At the meeting in Chicago, it was decided to use the following samples for the proposed study: cellophane, ethyl cellulose sheeting, greaseproof to board lamination, Pliofilm, Reynolds stock (cellophane-metal foil-kraft paper lamination), Scutan (a special laminated and coated product), three-ply glassine, and waxed glassine. Later, a lacquer-coated label stock was added to the list.

It was agreed that each sample be comprised of five specimens and it was decided to cut the specimens in the form of 6-inch squares. Twelve samples of each material were prepared; four were to be used at the Institute, four were to be sent to the National Bureau of Standards, and four were extras for replacement of damaged samples or additional tests.

The sampling of the materials was effected in the following manner: the cellophane was received in a roll sufficiently wide (42 inches) to permit sampling by cutting the five specimens of each sample in a row across the roll and taking the number of consecutive rows required to provide the desired twelve samples. The greaseproof to board lamination, the waxed glassine, the Scutan, and the ethyl cellulose sheeting were received in sheets of such size (24x36, 32x40, 26x39, and 36x36 inches, respectively) that twelve specimens could be cut from each sheet. Five sheets of each material were cut up and each sample was comprised of one specimen from each of the five sheets. The Pliofilm and the three-ply glassine were received in the form of 8-inch wide rolls. The specimens were cut consecutively along each roll and dealt in order of cutting into twelve groups of five specimens each. The Reynolds stock was received in a roll of inadequate width (26 inches) to permit cutting of five specimens across the roll. Five 96-inch lengths of the material were cut into 6-inch strips and these strips cut into twelve specimens. Each sample was composed of one specimen from each of the five strips. The lacquer-coated paper was received as 16 by 20-inch sheets. Ten sheets were cut along the machine direction into 6-inch strips. Specimens were cut from the strips and divided at random into the twelve samples.

Because of the "two-sidedness" of the greaseproof-board lamination, the Scutan, and the lacquer-coated label stock, two complete sets of samples were prepared for these materials so that they could be tested with each side exposed to the high relative humidity.

Methods for Measuring Water Vapor Permeability

The normal General Foods moisture vapor transfer method is described elsewhere (*1, 3*). In outline, the method is as follows: It is a cup method. The specimen is sealed with a wax mixture to a shallow cup containing anhydrous calcium chloride and the cup is stored for stated intervals in a cabinet maintained at 100° F. and 95% relative humidity. The gain in weight of the cup during a specified interval is used

* Presented at the Army and Navy Requirements Conference of the Technical Association of the Pulp and Paper Industry, Palmer House, Chicago, Ill., Sept. 21-24, 1943.

[1] The Institute of Paper Chemistry, Appleton, Wisconsin.

to calculate the water vapor permeability. For the tests reported here, the cabinet was in a room maintained at 73° F. and 50% relative humidity.

In this work, the specimens were cut into disks of the required size by means of a die and were stored for approximately 2 hours in the desiccators. After preparation, the cups were placed in the cabinet for an initial conditioning period of 24 hours. They were then removed, placed in the desiccators for 3 hours, weighed during the next hour, returned to the cabinet for a period of 68 hours, placed in the desiccators for 3 hours, and weighed. The water vapor permeability in grams per 24 hours per 100 square inches is normally calculated by multiplying the gain in weight (in grams) of each cup by the factor 1.71. In this report, the permeabilities were calculated by multiplying the gain in weight (in grams) of each cup by the factor 26.51 to yield grams per 24 hours per square meter.

The constant rate modification of the General Foods procedure was carried on in the following way: The preparation of the specimens and cups and the initial conditioning period were the same as in the normal procedure. After the weighing which followed the conditioning period, the cups were replaced in the cabinet for a period of 42 hours. They were then desiccated for 3 hours, weighed, and 6 hours after removal from the cabinet they were returned to the cabinet for another 42-hour interval of storage. This 48-hour cycle of operation was repeated three or more times until the plot of gain in weight as a function of the time of storage in the cabinet became linear. The slope of this linear portion of the curve was used to calculate the watef vapor permeability.

The Institute of Paper Chemistry method for determining water vapor permeability is described elsewhere (*2*). In outline, the method is the following: It is a cup method. The specimens are sealed to glass cups which contain a saturated solution of dihydrogen ammonium phosphate. At 100° F. this solution yields an equilibrium relative humidity of 92%. The cups are stored in a room maintained at 100° F. and 23% relative humidity. They are weighed periodically and the loss in weight is plotted as a function of the time of storage. The slopes of the linear portions of the curves are used to calculate the water vapor permeabilities.

Results

The water vapor permeabilities of the selected samples as determined by each of the three procedures are shown in Table I. The entry "Neg." as the minimum value for the Reynolds stock by the GFMVT test signifies that one cup lost weight instead of gaining. This value was not included in the average for the sample.

It is noted that the agreement between normal General Foods method (GFMVT) and the constant rate variation of that method (GF-constant rate) is good.

The values obtained by the Institute method are generally lower than those for the other two methods. This is particularly the case for the three-ply glassine and the waxed glassine. These discrepancies are important because they are most pronounced for the less permeable samples—i.e., for the samples of greatest interest to the users of water-vapor resistant membranes.

It seems best to present no detailed discussion of the significance of and reasons for the disagreement among the results until the data presented here can be compared and considered with that obtained by other procedures at the National Bureau of Standards.

The GFMVT cabinet used for these tests was kindly loaned by the Menasha Products Company.

Literature Cited

1. Symington, F. S., and Burroughs, R. F., *Fibre Containers* 28, No. 4:107-109 (1943).
2. Institute of Paper Chemistry. Instrumentation Studies. XLIX. Techniques for measuring water-vapor transfer. *Paper Trade J.* (in press).
3. Anon., *Modern Packaging* 16, No. 3:78, 80, 82, 100 (November, 1942).
4. Weber, C. G., *Paper Trade J.* 118, No. 3 (Jan. 20, 1944).

J. E. Fenn Joins Johnson-Salisbury, Inc.

James E. Fenn, chief research and production chemist of the Gummed Products Company, Troy, Ohio, has resigned his position as of January 1, 1944, to become a partner in the consulting laboratories of Johnson, Salisbury, Inc., 254 West 31st street, New York 1, N. Y.

Mr. Fenn has occupied this position for the last 5½ years. Prior to this, for 13 years he has been the chief chemist of Morningstar, Nicol, Inc. and their subsidiary, Paisley Products, Inc. in New York. While there, he acquired a thorough knowledge of starches, dextrines, glues and gelatines as well as liquid adhesives.

At The Gummed Products Company his work has been mainly with papers of all kinds as well as films and foils and, especially with the coating and laminating of these products including the application of waxes, resins and synthetic materials. He has been instrumental in the development of some of the latest materials used in the packaging industry for frozen and dehydrated foods as well as ordnance wrappers.

TABLE I.—COMPARISON OF WATER VAPOR PERMEABILITY METHODS

Sample	Water Vapor Permeabilities in Grams per 24 Hours per Square Meter — GFMVT			I.P.C. Method			GF-Constant Rate		
	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
Cellophane (450MST-53G)	7.5	3.7	5.0(5)*	3.7	1.6	2.5(5)*	....	....	.....
Ethyl cellulose (0.02" Dow 610)	129	122	125 (4)	94	89	91 (5)	125	123	124 (4)*
Three-ply glassine	2.0	1.9	2.0(4)	0.5	0.3	0.3(3)	2.8	2.3	2.5(5)
Pliofilm (140 PID)	8.2	7.5	7.9(5)	5.3	4.7	5.0(5)	8.7	8.4	8.4(5)
Greaseproof-board lamination									
Board at low R.H.	35	20	26 (4)	44	35	40 (5)	39	30	34 (3)
Board at high R.H.	12.3	10.1	11.0(4)	8.9	7.8	8.4(5)	11.2	9.3	10.2(4)
Waxed glassine	2.6	0.6	1.6(5)	0.3	0.1	0.1(4)	2.0	0.9	1.4(4)
Reynolds stock (A-14)									
Cellophane at low R.H.	0.5	Neg.	0.2(4)	0.6	0.0	0.2(5)	....	....	.....
Scutan									
Coating at low R.H.	9.8	7.6	8.8(5)	6.8	5.3	5.9(5)	8.8	8.5	8.7(5)
Coating at high R.H.	9.9	7.5	8.8(5)	7.0	5.4	6.1(5)	8.8	8.7	8.7(4)
Lacquer-coated paper									
Coating at low R.H.	710	122	410 (5)	310	38	146 (4)	....	....	.....
Coating at high R.H.	400	89	260 (5)	280	14.7	169 (4)	363	160	290 (5)

* The numbers in parentheses following each average value indicate the number of specimens.

HAS YOUR NEW PERSONNEL BEEN EDUCATED?

16 WAYS TO ADD LIFE TO YOUR FELTS

ORR FELTS

In these days of rapid change and expansion in mill personnel, too often through lack of knowledge, paper mill felts are neglected or abused.

Have you educated your new employees in the care of felts? Have they been taught to keep a close check on felt rolls for proper balance . . . have you instructed them in the importance of correct water temperature . . . do they know the latest method of cleaning, drying and storing? These are but several of the things that will prolong the life of a felt . . . effect an annual saving, not only in felt cost, but in down-time.

To help the new employee . . . to refresh the memory of the old employee, Orr Felt & Blanket Co. has published a booklet on felt saving hints. Write today for your copy.

THE ORR FELT & BLANKET CO., PIQUA, OHIO

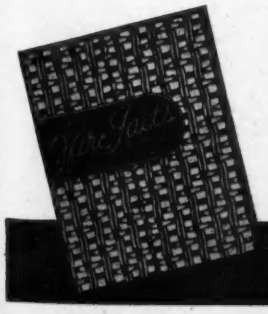
To the Machine Tender

WHO WANTS TO KNOW MORE ABOUT "WIRES"

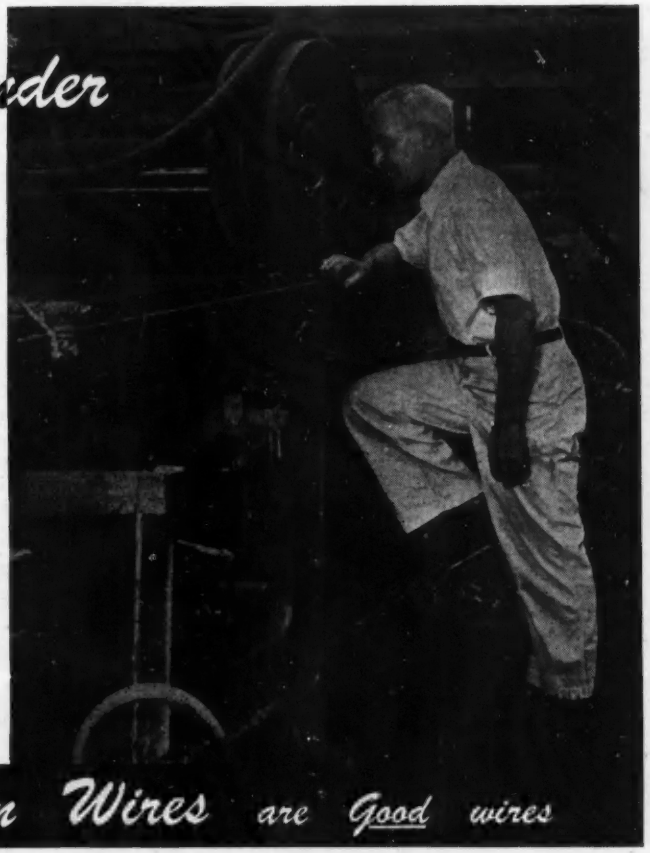
You'll find a lot of valuable and authoritative information in the book "Wire Facts"—information that will help you get more life out of wires—illustrations that point out causes for common wire failures—material that will help you do a better job and be of more value to the mill.

You can have your own personal copy of this book if you'd like it. Just drop us a card giving your name and address and the name of the mill that employs you.

We'll send the book free of charge.



APPLETON WIRE WORKS INC.
600 E. Atlantic St.
APPLETON, WIS.



Appleton Wires are Good wires

New York Paper and Pulp Market Review

Less Printing and Fine Papers Are Scheduled For Production In 1944—Wood Pulp Production For Most of Past Year About 8% Under 1942 — Paper Stock and Rag Markets Are Very Active.

Office of the PAPER TRADE JOURNAL.
Wednesday, January 19, 1944.

Demand for major types of paper continues at a high level. Wrapping paper orders are some 12% above that of a year ago. A relatively larger proportion of the civilian demand for paper board cannot be filled. Despite the short labor supply situation, business prospects are excellent, with somewhat higher prices expected. Less printing and fine papers will be produced in 1944 and larger quantities of container board and industrial papers will be manufactured.

The WPB plan for a government newsprint stockpile is expected to be adopted, as Donald M. Nelson told the Newspaper Industry Advisory Committee on January 14 that his agency would stand by its policy in the handling of the newsprint supply, to insure fair treatment to all users.

The index of general business activity for the week ended January 8 rose to 144.1 from 141.8 for the previous week, compared with 134.7 for the corresponding week last year. The index of paper board production was 147.0, compared with 124.8 for previous week, and 137.5 for corresponding week last year.

Paper production for the week ended January 8 was estimated at 93.6%, compared with 85.7% for 1943, with 103.2% for 1942, with 87.1% for 1941, and with 92.7% for the corresponding week for 1940.

Paper board production for the week ended January 8 was 86.0%, compared with 82.0% for 1943, with 101.0% for 1942, with 77.0% for 1941, and with 74.0% for the corresponding week for 1940.

The index of the value of manufacturers' shipment for November, reported by the Department of Commerce, for all industries, was 268, the highest on record. The index of paper and allied products was 163, the same as in June, compared to a high of 167 in October 1943.

The index of the value of manufacturers' inventories, all industries, for November 1943, was 180.1, the highest on record. The index of paper and allied products for November was 126.5, the lowest in more than two years.

Wood Pulp

The pulpwood supply, according to the January Industry Report, issued by the Department of Commerce, is now at a critical level. Over-all inventories at mills declined from 3,616,999 cords at the end of November 1942, to 2,807,000 cords at the close of November 1943. Over-all receipts showed some improvement, with November receipts up 125,000 cords. Receipts for the 11 months of 1943, totaled 13,532,000 cords, compared with 13,940,000 cords for the like period in 1942.

Wood pulp production for November totaled 784,000 tons, according to the Department of Commerce. Production for the 11 months of 1943 was 8% below 1942, or 857,000 tons.

WANTED

Purchasing Agent

Man with thorough knowledge of fine papers and who has paper mill connection, to act as purchasing agent for large wholesale firm. Write in full, stating qualifications. Address Box No. 44-57 Paper Trade Journal.

Rags

Demand for cotton cuttings is currently reported active, with mills freely purchasing all papermaking grades. Other grades of new cotton rags are also in active demand. Prices on all grades are strong, with full ceiling prices maintained.

The old cotton rag market is active. Felt mills are buying freely at ceiling prices.

Old Rope and Bagging

No important change has been reported in the old rope market this week.

Trading in old bagging is currently very light. Demand has again declined and buyers are reported in some quarters as only interested in accumulating supplies at lower than prevailing prices. Prices on all grades of bagging are nominal.

Old Waste Paper

Mill demand for waste paper continues urgent. Current reports indicate collections of paper stock are improving and that salvage drives are making excellent progress. Prices are strong.

Twine

Demand for all available types of twine is heavy. Prices continue strong. Government requirements continue very heavy. The market situation continues unchanged.

R. J. Zaumeyer Leaves WPB

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 19, 1944—The resignation of R. J. Zaumeyer as chief of the Technical Staff, Paper Division, War Production Board, has been announced by Rex Hovey, Director of the Division. Mr. Zaumeyer will return to Neenah, Wis., to resume his duties with the Kimberly Clark Corporation. He has been connected with the Paper Division since April, 1943, and will continue to serve as consultant to the staff of the Division.

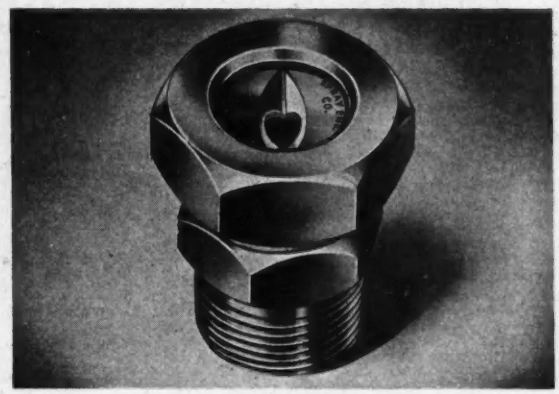
Mr. Zaumeyer will be succeeded by Lyman A. Beeman, of Watertown. Mr. Beeman, the new staff chief, has been associated with the St. Regis Paper Company since 1937.

Other changes in personnel included the appointment of Wiley Jennings, of the West Virginia Pulp and Paper Company, as Deputy Chief, replacing R. C. Spencer, who has transferred to the Paperboard Division. Mr. Spencer was formerly with the Howe Paper Company of Ridgefield, N. J. Russel Savage of the Mead Corporation has also resigned as consultant to the Technical Staff.

SPRACO NOZZLES

PAPER MILL SERIES NO. 3

Dandy Roll Service



SAVE WATER

We recommend our Flat Spray Nozzles for washing the Dandy Rolls. We will be glad to recommend proper nozzle sizes, water pressures and spacing upon application. Just specify your problem—we will specify the cure.

For reducing foam our T-type nozzles are most efficient at the Dandy Roll. May we recommend sizes to you for this application?

SAVE WATER

OTHER SPRACO PRODUCTS include Air Washers, Cooling Systems, Humidifying Systems, Automatic Spray Finishing Machines, Spray Painting Equipment, Battery Spray Moistening Equipment, Spraco Self-Cleaning Strainers and Spraco Condensing Type Oil and Water Extractors for air lines.

SPRAY ENGINEERING CO., 118 CENTRAL ST., SOMERVILLE, MASS.

"Supervised for Your Satisfaction"

this FITCHBURG "TRIUNE" Cotton Dryer Felt

is doing a great job of drying paper

Made of the finest cotton, carefully checked all through the spinning, twisting, weaving and final inspection

5 distinct weaves — For every paper
Prestretched and preshrunk if you desire

General Sales Agents

Morey Paper Mill Supply Co., 309 South St., Fitchburg, Mass.

MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL.
Wednesday, January 19, 1944.

BLANC FIXE—The market for blanc fixe continues to conform to prevailing quotations. Current demand is reported fair. The pulp is currently quoted at $40 per ton, in barrels, at works; the powder is currently quoted at $60 per ton.

BLEACHING POWDER—Current demand is reported good. Supply situation satisfactory. Bleaching powder is currently quoted at from $2.50 to $3.10 per 100 pounds. All prices in car lots, in drums, f. o. b. works.

CASEIN—OPA maximum prices on processed acid-precipitated casein are as follows: 10,000 pounds or more, 24 cents per pound; 2,000 pounds, 24¼ cents per pound; less than 2,000 pounds, 24¾ cents per pound, f. o. b. shipping point. Imported casein 10 cents per pound, f. o. b. source.

CAUSTIC SODA—Supply situation still tight, with production and demand reported heavy. Quotations continue unchanged. Solid caustic soda is currently quoted at $2.30 per 100 pounds. The flake and ground are currently quoted at $2.70 per 100 pounds. All prices in car lots, in drums, f. o. b. works.

CHINA CLAY—Demand for some grades of china clay is reported moderate this week. Domestic filler clay is currently quoted at from $7.50 to $15 per ton; coating clay is quoted at from $12 to $22 per ton, at mines. Imported china clay is currently quoted at from $13 to $25 per long ton, ship side.

CHLORINE—No change in the market situation has been reported this week. Production and demand heavy. Prices remain unchanged. Chlorine is quoted at $1.75 per 100 pounds, in single-unit tank cars, f. o. b. works.

ROSIN—Lower prices are quoted on some grades of rosin this week. "G" gum rosin is currently quoted at $4.10 per 100 pounds, in barrels, Savannah. "FF" wood rosin is currently quoted at $4.03 per 100 pounds, in barrels, New York. Seventy per cent gum rosin is currently offered at $4.36 per 100 pounds, f. o. b. works.

SALT CAKE—Demand reported moderate. Quotations on salt cake continue to remain unchanged. Domestic salt cake is currently quoted at $15 per ton, in bulk. Chrome cake is currently quoted at $16 per ton.

SODA ASH—Market for soda ash continues to be reported as tight. Prices continue to conform to prevailing quotations. Prices on soda ash in car lots, per 100 pounds, are as follows: in bulk, $.90; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Cash corn is reported coming into market slowly due to lack of freight cars. Market still tight. Quotations continue unchanged. Pearl is currently quoted at $3.10 per 100 pounds. The powdered grade is currently quoted at $3.20 per 100 pounds. All prices f. o. b. Chicago.

SULPHATE OF ALUMINA—Market situation in sulphate of alumina is reported satisfactory. Quotations continue unchanged. Prices on the commercial grades are quoted at from $1.15 to $1.25 per 100 pounds. The iron free is currently quoted at $2.35 per 100 pounds. All prices in car lots, in bags, f. o. b. works.

SULPHUR—Demand is reported steady for sulphur. Quotations on all grades continue unchanged. Annual contracts are currently quoted at $16 per long ton, f. o. b. mines. The current contract price at Gulf Ports remains unchanged at $17.50 per long ton.

TALC—Demand is reported moderate on some grades of domestic talc at this date. The domestic grades are currently quoted at from $16 to $21 per ton, at works.

MARKET QUOTATIONS

All market quotations, excepting those otherwise designated as official OPA maximum prices, are based on the manufacturers' price level as of October 1-15, 1941; maximum wholesale prices are based on the merchants' maximum prices for stipulated quantities at a quoted price to all customers of a like class, as shown by the merchant's sales records of goods delivered during March, 1942. A merchant's price list in effect in March 1942, showing quotations of actual shipments, will establish the current maximum prices.

Paper

(Delivered New York)

News, per ton—			
Roll, contract	*$58.00	@	—
Sheets	64.00	"	—
* OPA Maximum Price.			
Kraft—per cwt.—Carload Quantities Zone A, f.o.b. Mill			
Superstandard Wrapping	*$5.25	@	—
No. 1 Wrapping	*5.00	"	—
Standard Wrapping	*4.75	"	—
Standard Bag	*4.375	"	—
* OPA Manufacturers' Prices.			
Tissues—Per Ream—Carlots			
White No. 1	1.12½	"	—
White No. 1 M. G.	1.10	"	—
White No. 1½	1.00	"	—
White No. 2	.90	"	—
Anti-Tarnish M.F.	1.20	"	—
Colored	—	"	—
Kraft	.95	"	—
Manila	.90	"	—
Toilet—1 M. Sheets—Per Case			
Unbleached	4.25	"	—
Bleached	5.70	"	—
Unbl. Toilet, 1 M.	4.16	"	—
Bleached Toilet	5.70	"	—
Paper Towels, Per Case—			
Unbleached, Jr.	2.60	"	—
Bleached, Jr.	3.20	"	—
Manila—per cwt.—C. l. f. a.			
No. 1 Jute	11.25	@	—
No. 1 Manila Wrapping, 35 lb.	6.00	"	6.25
No. 2 Manila Wrapping, 35 lb.	5.75	"	6.00
Boards, per ton—			
News	*46.00	@	—
Chip	*48.00	"	—
Sgl. Mla. Lt. Chip	*60.00	"	—
White Pat. Coated	*75.00	"	—
Kraft Liners 50 lb.	*63.00	"	—
Binders Boards	84.00	"	116.00

* OPA Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5.; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—White, Assorted Items, Delivered in Zone 1:

	Bonds		Ledgers
100% Rag Ext. No. 1	$39.10 @	$46.00	$40.25 @ $47.25
100% Rag	32.20 "	37.75	33.35 " 39.25
85% Rag	.... "	....	29.90 " 35.00
75% Rag	23.00 "	27.00	24.15 " 28.25
65% Rag	.... "	....	22.80 " 27.75
50% Rag	18.70 "	22.75	19.90 " 24.25
25% Rag	16.40 "	20.00	17.55 " 21.50

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—White, Assorted Items. Delivered in Zone 1:

	Bonds		Ledgers
No. 1	$10.55 @	$12.75	$11.70 @ $14.25
No. 2	9.65 "	11.75	10.80 " 13.25
No. 3	9.20 "	11.25	10.35 " 12.50
No. 4	8.90 "	10.75	10.05 " 12.25

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper. Delivered in Zone 1:

No. 1 Glossy Coated	$13.65 @		$15.50
No. 2 Glossy Coated	12.40 "		14.00
No. 3 Glossy Coated	11.60 "		13.25
No. 4 Glossy Coated	11.15 "		12.75
No. 1 Antique (watermarked)	10.25 "		11.75
No. 2 Offset	9.60 "		11.00
A Grade E. F.	9.35 "		10.75
A Grade S. & S. C.	9.60 "		11.00
B Grade E. F.	8.85 "		10.25
B Grade S. & S. C.	9.10 "		10.50
C Grade E. F.	8.55 "		9.75
C Grade S. & S. C.	8.80 "		10.00
D Grade E. F.	8.25 "		9.50
D Grade S. & S. C.	8.50 "		9.75

Ivory & India at $.50 cwt. extra.

Wood Pulp

OPA Maximum Prices and Canadian Manufacturers Prices, Less Freight, Not Exceeding OPA Allowances.

Bl. Softwood Sulphite	$76.00		
Unbl. Softwood Sulphite	65.00 @		66.00
Bl. Hardwood Sulphite	73.50		
Unbl. Hardwood Sulphite	63.50		
Bl. Mitscherlich	81.00		
Unbl. Mitscherlich	72.00 @		82.00
N. Bleached Sulphate	86.00		
S. Bleached Sulphate	79.00		
N. Semi-Bleached Sulphate	82.00		
S. Semi-Bleached Sulphate	75.00		
N. Unbl. Sulphate	73.00		
S. Unbl. Sulphate	63.50		
Bl. Soda	66.00		
Unbl. Soda	62.00		
Groundwood	46.00		

Transportation Allowances

Applying to Producers of Wet Wood Pulp.

	Below 50% Air Dry Weight
Northeast	$13.50
Lake Central	13.50
Southern	16.00
West Coast (in area)	10.50
West Coast (out area)	16.50

	50%-80% Air Dry Weight
Northeast	$11.50
Lake Central	11.50
Southern	14.00
West Coast (in area)	9.50
West Coast (out area)	15.50

Applying to Producers of Dry Wood Pulp.

	Above 80% Air Dry Weight
Northeast	$8.50
Lake Central	8.50
Southern	11.00
West Coast (in area)	7.50
West Coast (out area)	13.50

Should freight charges actually exceed these allowances, the difference may be added to the maximum prices

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	6.50	@	7.25*
Silesias No. 1	—	"	5.75*
New Unbleached	6.75	"	7.50*
Blue Overall	—	"	5.50*
Fancy	—	"	3.50*
Washables	—	"	3.00*
Bleached Khaki Cuttings	—	"	4.25*
Unbleached Khaki Cuttings	—	"	3.50*

* OPA Maximum Prices.

SPECIAL for PAPER

PARIS 2 Black

Gives A COLUMBIAN COLLOID HIGH COLOR VALUE

This specially manufactured paper-black has such exceptional tinting strength that a minimum of it is required to obtain desired results. It also offers these fine characteristics:

•

Free from oiliness
Optimum particle size
High tinctorial strength
Ease of dispersion
Ease of handling
Uniformity

•

Use

Paris 2 Black in your black and gray paper stocks with assurance.

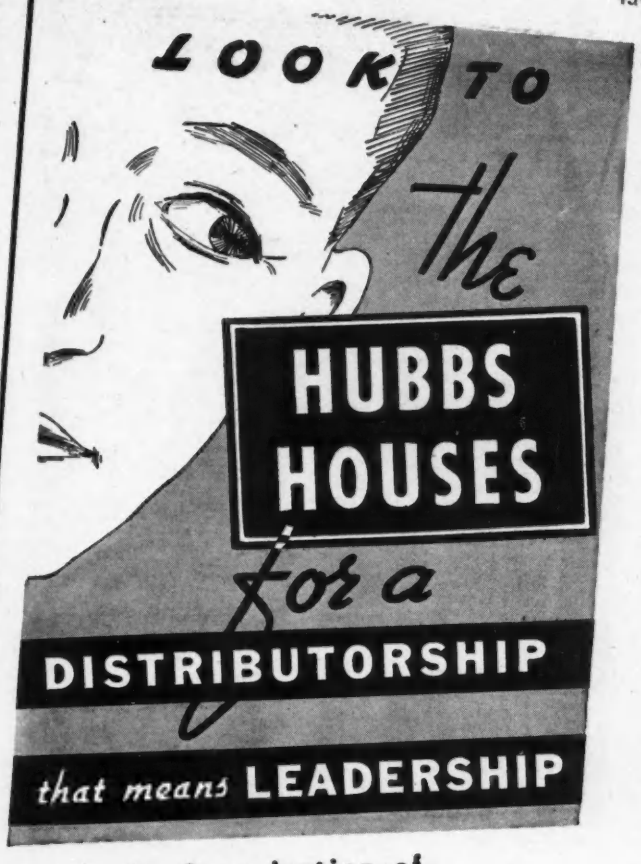
Compressed or Semi-Compressed for Jet Black Papers

Uncompressed for Tinting Gray Stocks

We Invite Technical Inquiry

BINNEY & SMITH CO. DISTRIBUTOR • COLUMBIAN CARBON CO. MANUFACTURER

41 East 42nd St., New York, N. Y.



An Organization of
SERVICE MINDED PAPER ENGINEERS

The HUBBS HOUSES Established 1855

CHARLES F. HUBBS & COMPANY
Lafayette Street Warehouse
Beekman Street Warehouse
NEW YORK, N. Y.

HUBBS & CORNING COMPANY
BALTIMORE, MD.

HUBBS & HOWE COMPANY
BUFFALO, NEW YORK

HUBBS & HASTINGS PAPER CO.
ROCHESTER NEW YORK

CHARLES F. HUBBS & COMPANY
BRIDGEPORT, CONN.

INTERSTATE CORDAGE & PAPER CO.
PITTSBURGH, PA.

THOMAS J NAGLE PAPER CORP.
HOLLIS, NEW YORK

HUBBS & HOWE COMPANY
CLEVELAND, OHIO

HOLLAND PAPER COMPANY
BUFFALO, NEW YORK

CHARLES F. HUBBS & COMPANY
TROY, NEW YORK

and in Canada

VICTORIA PAPER & TWINE CO., LTD.
TORONTO

VICTORIA PAPER & TWINE CO., LTD.
MONTREAL

VICTORIA PAPER & TWINE CO., LTD.
HALIFAX

GARDEN CITY PAPER MILLS CO., LTD.
ST. CATHARINES, ONT.

CANADIAN VEGETABLE PARCHMENT CO., LTD.
MERRITTON, ONT.

Old Rags

White, No. 1—			
Repacked	*3.80	"	—
Miscellaneous	*3.20	"	—
White, No. 2—			
Repacked	*2.90	"	—
Miscellaneous	*2.65	"	—
Third and Blues—			
Repacked	*2.20	"	—
Miscellaneous	*1.80	"	—
Roofing Rags—			
No. 1	*1.55	"	—
No. 2	*1.45	"	—
No. 3 (bagging)	*1.35	"	—
No. 4	*1.35	"	—
No. 5A	*1.35	"	—
Old Manila Rope	5.75	"	—

OPA Maximum Prices.

Foreign Rags

All Prices nominal

New Rags

New Dark Cuttings	2.25	●	2.40
New Mixed Cuttings	2.00	"	2.20
New Light Silesias	5.50	"	5.75
Light Flannelettes	5.50	"	5.75
New White Cuttings	7.00	"	7.50
New Light Oxfords	4.00	"	4.50
New Light Prints	3.00	"	3.25

Old Rags

No. 1 White Linens	7.50	"	8.50
No. 2 White Linens	6.50	"	7.50
No. 3 White Linens	4.50	"	—
No. 4 White Linens	2.25	"	3.25
No. 1 White Cotton	4.25	"	4.75
No. 2 White Cotton	3.25	"	3.75
No. 3 White Cotton	2.50	"	3.00
No. 4 White Cotton	1.90	"	2.20
Extra Light Prints	2.00	"	2.40
Ord. Light Prints	1.75	"	2.15
Med. Light Prints	1.55	"	1.95
Dutch Blue Cottons	2.25	"	2.50
French Blue Linens	3.00	"	—
Checks and Blues	2.00	"	—
Linsey Garments	1.90	"	2.00
Dark Cottons	1.50	"	1.60
Old Shopperies	1.30	"	1.45
New Shopperies	1.45	"	1.50
French Blues	2.25	"	2.50

BAGGING

(Prices to Mill, f. o. b. N. Y.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	4.25	●	4.35
Wool Tares, light	4.25	"	4.50
Wool Tares heavy	4.50	"	5.00
Bright Bagging	4.50	"	4.85
Manila Rope—			
Foreign	—	"	—
Domestic	*5.75	"	—
Jute Threads	5.50	"	—
No. 1 Sisal Strings	*4.00	"	—
Mixed Strings	2.00	"	—

* OPA Maximum Price.

Old Waste Papers

(F. o. b. New York)

OPA Maximum Prices

No. 1 Hard White Envelope Cuts, one cut	3.37½	●	—
No. 1 Hard White Envelope Cuts	3.12½	"	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, one cut	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Mixed Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
Mixed Groundwood Colored Shavings	.90	"	—
Overissue Magazines	1.67½	"	—
No. 1 Heavy Books & Magazines	1.67½	"	—
Mixed Books	.85	"	—
No. 1 White Ledger	2.17½	"	—
No. 2 Mixed Ledger, colored	1.87½	"	—
New Manila Envelope Cuttings, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
Extra Manilas	1.85	"	—
Mixed Kraft, Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
Triple Sorted, No. 1 Brown Soft Kraft	2.50	"	—
New 100% Kraft Corrugated Cuttings	2.25	"	—
No. 1 Assorted Old Kraft	1.75	"	—
New Jute Corrugated Cuttings	.90	"	—
Old 100% Kraft Corrugated Containers	1.75	"	—
Old Corrugated Containers	1.15	"	—
Box Board Cuttings	.72½	"	—
White Blank News	1.65	"	—
Overissue News	.85	"	—
No. 1 News	.75	"	—
No. 1 Mixed Paper	.70	"	—
Old Corrugated Containers	.82½	"	—
Mill Wrappers	.85	"	—

Twines

All Prices Nominal

(F. o. b. Mill)

(Soft Fiber)

Coarse Polished—			
India	.21	●	—
White Hemp	.21	"	—
Fine Polished—			
Fine India	.26	"	—
Unpolished—			
Box	.17½	"	—
Paper Makers	.17	"	—
Tube Rope	.19	"	—
Wall Paper	.20½	"	—
Wrapping	.23	"	—
Soft Fiber Rope	.19	"	—
Cotton	.25	"	—

(Hard Fiber)

Medium Java	.18	"	—
Mex. Sisal	.16	"	—
Manila		"	—

PHILADELPHIA

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White No. 1	.07¼	●	.07½
New White No. 2	.04½	"	.05
Light Silesias	.04½	"	.04¾
Silesias, No. 1	.04	"	.04¼
Black Silesias, soft	.03¾	"	.04
New Unbleached	.07¼	"	.07½
Washable Prints	.03¾	"	.03½
Washable No. 1	.02	"	.02¼
Blue Overall	.04½	"	.05½
Cottons—According to grades—			
Washable shredding	—	"	.01¾
Fancy Percales	.03¼	"	.03½
New Black Soft	.02¾	"	.03
New Dark Seconds	1.75	"	2.00
Khaki Cuttings—			
No. 1 O. D.	.03	"	.03¼
No. 2 Mixed	.02¼	"	.02½
Corduroy	.01¾	"	.02¼
New Canvas	.04¾	"	.05½
New Black Mixed	—	"	.02½

Domestic Rags (Old)

White No. 1—Repacked	3.80	"	—
White No. 2—Repacked	2.90	"	—
Miscellaneous No. 1	3.20	"	—
Miscellaneous No. 2	2.65	"	—
Thirds and Blues—			
Miscellaneous	1.80	"	—
Repacked	2.20	"	—
Black Stockings— (Export)	Nominal		
Roofing Stock—			
Foreign No. 1	Nominal		
Domestic No. 1	1.55	"	—
Domestic No. 2	1.45	"	—
Roofing Bagging	1.35	"	—
Old Manila Rope	5.75	"	—

Bagging

(F. o. b. Phila.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	3.00	"	3.50
Sisal Rope	3.75	"	—
Mixed	1.00	"	1.50
Scrap—			
No. 1	3.25	"	3.50
No. 2	1.75	"	1.80
Wool Tares 4o	4.00	"	4.25
No. 1 New Lagt			
Burlap	3.00	"	4.00
New Burlap Cuttings	3.75	"	4.00

Old Papers

(F. o. b. Phila)

OPA Maximum Prices

No. 1 Hard White Envelope Cuts, one cut	3.37½	"	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
Soft White Shavings, one cut	2.50	"	—
White Blank News	1.65	"	—
Soft White Shavings, Misc.	1.30	"	—
No. 1 Hard White Shavings, ruled	2.50	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
Hard White Envelope Cuts, one cut	3.37½	"	—
Triple Sorted No. 1 Brown Soft Kraft	2.50	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
No. 1 Heavy Books & Magazines	1.67½	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
White Blank News	1.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.70	"	—
Overissue News	.85	"	—
Box Board Cuttings	.72½	"	—
New Corrugated Cuttings, Kraft	2.25	"	—
Old 100% Kraft Corrugated Containers	1.75	"	—
Old Corrugated Containers	1.15	"	—
Jute Corrugated Cuttings	1.07½	"	—

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign	(nominal)		
Domestic	2.50	●	2.75
Sisal Rope No. 1	*4.75	"	—
Sisal Rope No. 2	*4.25	"	—
Mixed Rope	1.35	"	1.50
Transmission Rope—			
Foreign	(nominal)		
Domestic	2.75	"	3.00
Manila Rope—			
Foreign	(nominal)		
Domestic	5.75	"	—
Soft Jute Rope	5.25	"	—
Jute Carpet Threads	3.00	"	3.50
Bleachery Burlap	8.50	"	9.00
Scrap Burlap—			
Foreign	(nominal)		
Domestic	3.25	"	3.50
Wool Tares—			
Foreign	(nominal)		

BOSTON

Old Papers

(F. o. b. Boston)

OPA Maximum Prices

No. 1 Hard White Shavings, unruled	2.87½	●	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
Hard White Envelope Cuts, one cut	3.37½	"	—
Triple Sorted No. 1 Brown Soft Kraft	2.50	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
No. 1 Heavy Books & Magazines	1.67½	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
White Blank News	1.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.70	"	—
Overissue News	.85	"	—
Box Board Cuttings	.72½	"	—
New Corrugated Cuttings, Kraft	2.25	"	—
Old 100% Kraft Corrugated Containers	1.75	"	—
Old Corrugated Containers	1.15	"	—
Jute Corrugated Cuttings	1.07½	"	—

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign	(nominal)		
Domestic	2.50	●	2.75
Sisal Rope No. 1	*4.75	"	—
Sisal Rope No. 2	*4.25	"	—
Mixed Rope	1.35	"	1.50
Transmission Rope—			
Foreign	(nominal)		
Domestic	2.75	"	3.00
Manila Rope—			
Foreign	(nominal)		
Domestic	5.75	"	—
Soft Jute Rope	5.25	"	—
Jute Carpet Threads	3.00	"	3.50
Bleachery Burlap	8.50	"	9.00
Scrap Burlap—			
Foreign	(nominal)		
Domestic	3.25	"	3.50
Wool Tares—			
Foreign	(nominal)		
Domestic	4.25	"	—
Aust. Wool Pouches	3.75	"	4.00
New Burlap Cuttings	4.75	"	5.00
Heavy Baling Bagging	4.00	"	4.25
Paper Mill Bagging	2.50	"	3.00
No. 2 Bagging	1.35	"	—

* OPA Maximum Price.

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.04½	●	.04¾
Fancy Percales	.04¼	"	.05
New White No 1	.06¾	"	.07
New Light Flannelettes	.05½	"	.06
Canton Flannels, Bleached	.06	"	.06½
Underwear Cutters, Bleached	.06¼	"	.06¾
Underwear Cutters, Unbleached	.05¼	"	.06
Silesias No. 1	.06	"	.06¼
New Black Silesias	.03	"	.03½
Red Cotton Cuttings	.03½	"	.04
Soft Unbleached	.06½	"	.06¾
Blue Cheviots	.05½	"	.06
Fancy	.02¾	"	—
Washable	.02¾	"	—
Khaki Cuttings	.02¾	"	.03
O. D. Khaki	.03½	"	.03¾
Corduroy	.03¼	"	.03½
New Canvas	.06¼	"	.06¾
B. V. D. Cuttings	.06¼	"	.06¾

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—Repacked	3.80	●	—*
White No. 1—Miscellaneous	3.20	"	—*
White No. 2—Miscellaneous	2.65	"	—*
Twos and Blues, Repacked	2.20	"	—*
Old Blue Overalls	2.25	"	2.50
Thirds and Blues, Repacked	2.20	"	—*
Miscellaneous	1.80	"	—*
Black Stockings	3.50	"	4.00
Roofing Stock—			
No. 1	1.55	"	—*
No. 2	1.45	"	—*
No. 3	1.35	"	—*
No. 4	1.35	"	—*
No. 5, Quality A	1.35	"	—*
Quality B	1.20	"	—*
Quality C	.95	"	—*
Old Manila Rope	5.75	"	—

* OPA Maximum Prices.

Foreign Rags

(F. o. b Boston)

Canvas	(nominal)
Dark Cottons	(nominal)
Dutch Blues	(nominal)
New Checks and Blues	(nominal)
Old Fustians	(nominal)
Old Linsey Garments	(nominal)
New Silesias	(nominal)

CHICAGO

Waste Paper

(F. o. b. Chicago)

OPA Maximum Prices.

Shavings—			
No. 1 Hard White Envelope Cuts, one cut	1.37½	"	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
No. 1 White Ledger	2.17½	"	—
No. 1 Heavy Books & Magazines	1.67½	"	—
White Blank News	1.65	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
No. 1 Assorted Old Kraft	1.75	"	—
Overissue News	.85	"	—
No. 1 News	.75	"	—
No. 1 Mixed Paper	.70	"	—
No. 1 Roofing Rags	1.55	"	—
No. 1 Roofing Bags	1.45	"	—
Misc.	2.13	"	—
No. 1 White Ledger	2.17½	"	—
No. 2 Ledger, colored	1.87½	"	—
No. 1 Heavy Books & Magazines	1.67½	"	—
Overissue Magazines	1.67½	"	—
New Manila Envelope Cuttings	2.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.70	"	—
Box Board Cuttings	.72½	"	—
Kraft Corrugated Cuttings	2.25	"	—
Old Corrugated Containers	1.15	"	—
Overissue News	.85	"	—
No. 1 News	1.00	"	—